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2006

HEATHERS 3



Yearbook
of The
Heather
Society

ISSN 0440-5757

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Registered charity No 261407

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FRONT COVER: Panel from London's Underground poster "Heather", by Miss Irene Fawkes, printed in 1923 (see Frontispiece on p. ii, and pp 19-21). Reproduced by courtesy of Hugh Robertson (Curator (Photographs), London's Transport Museum). © Transport for London.



Heathers 3



Yearbook of The Heather Society

2006

third series

Editor
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Assistant Editor
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ISSN 0440-5757

The Heather Society
c/o Denbeigh, All Saints Road, Creeping St Mary, IPSWICH, Suffolk, IP6 8PJ



HEATHER

Frontispiece. London's Underground poster "Heather", by Miss Irene Fawkes, printed in 1923 (see pp 19-21). Reproduced by courtesy of Hugh Robertson (Curator (Photographs), London's Transport Museum). © Transport for London.

A demonstration bed of The Heather Society's recommended heathers

ERIC DAVIS

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This article describes the development of a demonstration bed of The Heather Society recommended heathers in the garden of our house in Chislehurst, Kent.

The garden

The house was built on the edge of Petts Wood in 1936 and the 2/3 acre garden was laid out and planted professionally. It had many narrow concrete paths breaking up a large lawn with a number of formal beds, mainly of rhododendrons and roses.

The house was apparently empty for several years following the end of the 1939–1945 war and fell into disrepair. When I and my wife Betty bought the property in 1967 there had been some very limited modernization of the house but the garden layout was unchanged from 1936 and it had been badly neglected. The tennis court at the bottom of the garden was covered in piles of rubbish and by innumerable silver birch trees and saplings. There was a large rotating summer house and a small wooden greenhouse, both in an advanced state of decay.



Figure 1. A recent view of the garden.

We could see that the property had great potential, and when we had got on top of modernizing the house we concentrated our attention on the garden. This has kept us happily and interestingly occupied for much of our leisure time for more than 30 years. A recent view of the garden is shown in Figure 1; it is interesting to note that we planted every tree, shrub and plant that can be seen in the photograph.

Much of our effort in recent years has been to reduce the maintenance requirements of the garden; heathers, which have been an interest for many years, have played an increasingly important part.

The recommended heathers

I had for a long time been disappointed that it was not easy to compare heather species and cultivars in the large heather gardens at RHS Garden Wisley and elsewhere. The publication in 1999 of *The Heather Society's guide to recommended heathers* inspired me to consider planting "The 100 best heathers chosen by experts" in an undeveloped strip of the garden where apple and other top-fruit trees of the original garden had been cleared.

The demonstration bed

The demonstration heathers are planted in a south-facing bed against an east-to-west fence in partial shade from an adjacent hedge (Figures 2 and 3).

The soil, which is a poor very-free-draining neutral sandy loam, was prepared by the generous addition of peat, Perlite and sulphur (about 6oz / square yard). The bed was covered with horticultural-grade woven polypropylene Mypex™ ground cover sheeting, stretched and secured to the edges of the bed by wooden tile battens screwed to the fence and path edges, the joints being sealed by Mypex double-sided adhesive tape. The sheeting was fastened down with Mypex plastic pins; recently, Mypex metal U-shaped staples have come available which are more secure and easier to use.

In the spring of 2001 David Small obtained for me three plants of each cultivar of the recommended heathers.

The groups of three plants were planted in triangular holes with 12-inch sides. Three-pronged "crosses" were cut in the Mypex sheeting with a heavy-duty soldering iron to prevent fraying and the cut edges were folded back underneath to form the triangular holes. Each heather was planted with a small quantity of Osmocote slow-release fertilizer in the planting hole. Recently, I have planted small replacement heathers with ericaceous compost in the planting hole to encourage the roots of the young heathers to grow outwards.



Figure 2. The demonstration bed in March 2005.



Figure 3. The demonstration bed in August 2005.

The plants were arranged in south-north rows, generally in the same order as in *The Heather Society's guide* ... but with the taller heathers (for example, *Erica arborea* and *E. erigena*) planted at the ends of the rows against the fence. Each cultivar was labelled with a metal label 1/8 x 1/2 x 20 inches (of industrial strip aluminium), the labels being embossed with 10mm self-adhesive Dymo black tape (other colours fade rapidly in sunlight). The labels were driven well into the ground to thwart theft by foxes, cats and crows!

This method of heather-bed construction has been used elsewhere in the garden, but with single heathers planted through small holes formed by four-pronged crosses cut in the Mypex with a soldering iron. This has proved to be ideal; there is virtually no weeding and maintenance can be limited to the annual pruning following flowering. Mypex also has the well-known advantages of moisture conservation, free passage of air and rain, higher soil temperatures and avoidance of the damp humid conditions associated with traditional black polythene sheeting. Mypex-covered beds can of course be top-dressed with decorative bark, shingle or larger pebbles if desired.

In several years the Demonstration Bed was watered with Miracid in April and June. It might have been a good idea to have done it every year !

Problems of the developing demonstration bed

The development of the Demonstration Bed has not been without problems and there have been many failures; with experience much of these could probably have been avoided. The main causes of failure (the most frequent first) were as follows:

1. Failure, in my innocence, to tease out the root balls of the many root-bound plants (as a result of my experience, David Small includes with Heather Society orders a note emphasizing the importance of teasing out pot-bound root balls and describing how this should be done).

2. The drying out of young plants (I now aim to check such plants weekly with a moisture meter).

3. Cats (I suspect mainly ours!) and (less frequently) foxes digging up the young plants. In recent years there have been relatively few replacement plants and it has been practicable to protect the young plants with plastic mesh covers held down with Mypex staples (see Figure 4).



Figure 4. Plastic mesh cover over young heathers.

The Demonstration Bed has been a source of continuing interest to me and others, particularly because it enables the habit of growth, foliage and flowers of the various species and cultivars to be compared month by month throughout the year.

The future

I have been increasingly concerned that my garden has been the only place where the recommended heathers can be seen side by side. I am now 84 years old and by the nature of things my Demonstration Bed cannot be available for general viewing for many more years.

I have urged The Heather Society to initiate the planting of demonstration beds where they could be seen by the public, such as at Wisley and other RHS gardens. It was therefore a relief to learn that at its meeting on 24 November 2004 The Heather Society Council accepted an offer from Daphne Everett, the *Bulletin* Editor, to put aside an area in her garden to display the recommended heathers. The garden is open to the public which will be of added benefit.

However, it is disappointing that Council decided that it was not practicable to initiate the establishment of a demonstration bed at Wisley or another RHS garden.

Postscript

The Demonstration Bed of Recommended Heathers consists of some 20 species and it is not the purpose of this article to attempt to compare or comment on the different species or cultivars.

My own interest is not so much that of a heather enthusiast but that of someone using heathers in a general garden of trees, shrubs, perennials and, to a limited extent, annuals; also, and most importantly, to continue the summer colour of the garden into the winter.

Here, in my opinion, *Erica carnea* reigns supreme! It looks presentable throughout the year, is compact and easily maintained, and has a long flowering period of some four to five months in the winter. A recently planted bed of *E. carnea* plants which in a very few years will grow together and form a spectacular mass of winter colour between February and May.

One hundred (and one) recommended heathers

DAPHNE EVERETT

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As Eric Davis has indicated in his article (pp 1–5), I was approached by Council some time ago to plant a demonstration bed of the “One hundred recommended heathers”, in our garden in Herefordshire, as Eric was concerned that his was the only one in the country. This we were pleased to agree to do.

As we are avid plant collectors, after 21 years, our garden is full to bursting point, and the only suitable place we could find was at the very top of the heather garden, in a grassy area (known as The Far Garden) which is planted with trees and shrubs and thousands of wild daffodils. The place designated for the new bed contained a variegated tulip tree (*Liriodendron tulipifera* ‘Aureomarginatum’), two magnolias and a hydrangea. The hydrangea was lifted and relocated in the Spring, but the others were too large to move – even supposing we could have found somewhere else to plant them – so the heather bed has had to be designed to accommodate them.

In the early spring of 2005 the bed was sprayed a couple of times with glyphosate to kill the grass and perennial weeds, then rotovated twice. As our soil is only just acid (pH about 6.5) the area was given a good dose of sulphur and this, together with many barrow loads of garden compost, was then dug in. As many of the daffodils as possible were rescued and replanted elsewhere, but I expect there will be some coming up among the heathers for the next few years. Grit was incorporated into the area where I knew that *Erica cinerea* (bell heather) were to be planted, as bell heathers don’t take kindly to our soil, which is heavy and wet in winter.

In March the plants, three of each cultivar (kindly supplied free of charge by the Society), arrived from Holland, and most were potted on into 1 litre pots to make good plants for the Autumn. Those that were already in large pots (probably a couple of dozen), I didn’t pot on – which was a mistake. Compared with the others they looked starved by the time they were planted out.



Figure. 1 Grassy area in the Far Garden being prepared for planting.



Figure. 2 One hundred and one recommended heathers planted out.

In October the bed was marked out with 100 canes, preparatory to planting. Once the canes were spaced in the bed to my satisfaction, I started putting the pots of heathers in place and, to my surprise, found when I came to the end, that I had one variety over! This was no real problem, a little bit of juggling soon sorted it out, but it was only at this stage that I thought to count the number of names on the list, and thereby discovered that there were actually one hundred and one!

Intrigued, I emailed David Small, one of the authors of the Society's booklet *Recommended heathers*, and he confirmed that, due to an oversight at the time, there are indeed **101** cultivars listed.

As the new heather bed is part of our ornamental heather garden, the design is fairly informal, but is also (hopefully) suitable for reference purposes. The various species have been kept together, to make it easy for visitors to find them and to compare one cultivar with another. The exceptions to this rule are the tree heaths, which are dotted around towards the centre of the bed.

Maurice has played his part in this project by making a smart, easy to read label for each cultivar. These were printed with our 'Brother' labelling machine, which has been used for labelling most of the trees and shrubs around the garden. They are supposed to be weatherproof, but only time will tell.

At the moment the bed looks like a sea of labels, but by the end of 2006 the plants should have put on some good growth. We intend to have a plan of the bed available for our garden visitors and, if the project helps to increase interest in heathers, it will have been very worthwhile.

Sunburn or frostbite? Observations on the changing colour of some heathers

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It would appear that cultivars of *Calluna vulgaris* have one of three main foliage characteristics during winter. The majority remain evergreen, but may grow duller than in the summer and offer relatively little variation for the gardener. Others remain vibrant, or grow somewhat more so, especially those with yellow foliage such as 'Beoley Gold', or 'Gold Haze'. Among these "yellows", a third group change foliage colour quite dramatically, and are used in the garden for that purpose. This last group is not uncommon among yellow- or gold-foliage summer *Calluna*, and nearly a dozen cultivars of *Erica cinerea* show the same effect.

This colour change is seen in the northern hemisphere when viewed from their south side. This Jekyll and Hyde appearance had been noted by Fyfe Maxwell (1927: 67) on *C. vulgaris* (as *Erica vulgaris*) 'Cupraea' (*sic*) whose

coppery coloured foliage is suffused with bright red under the influence of the feeble slanting rays of the sun, but on the side the sun is unable to reach the leaves take on quite a green hue.

Karla Lortz (2002) is a little more expressive, warning, "situate [these plants] in winter shade, and you will have shades of chartreuse to light green." (A typographical error, presumably, reverses the polarity of the phenomenon as described by Maxwell and Patrick (1966: 80), who say that "the golden and bronze-leaved heathers are more deeply coloured on the north side of the plant. On the south side there is a suggestion of the underlying green.")

It is not merely the south side of the plant which becomes reddened, however – it is only one side of *each south-facing leaf* which develops in this way, as long as there is direct sunlight on it during cold, and especially frosty, weather. Meanwhile, the other side of the same leaf will remain green. Leaves on the south side of plants will redden only if they are not shaded by

any others between them and the sun; and bending a branch sufficiently from year to year will change the side of the leaf that turns red. The effect can also be seen in the cultivars that remain yellow – again, the leaves on the shaded side are quite green, a phenomenon visible throughout the whole year. (A constant reminder of my own naïveté is the green appearance throughout the year of my *Calluna vulgaris* ‘Wickwar Flame’, planted in the shadow of the house.) First-year plants on sale in garden centres are often green on all sides when they have been recently brought out of growers’ tunnels.

Illustrations for this article were taken on the same day, showing the effects of winter sunshine on the same plants viewed from north and south. This first photograph is of a sprig of ‘Orange Queen’, shortly after its spring pruning. How much of each leaf changes colour can depend partly on how erect the plant or leaves normally grow. The south view of ‘Firefly’, for example, is very brown when seen from a high angle, but it is mainly the tips that change colour, the plant remaining quite green when viewed from ground level. Another variation can be seen in ‘Winter Chocolate’ (though I am unsure whether this should be classified as a summer yellow at all; most writers include green in its foliage description). Mine is very green, and the chocolate colouring of winter goes only partly down the branches.



Figure 1. *Calluna vulgaris* ‘Orange Queen’; 25 March 2005.

Thus, the trigger for the colour change in some *Calluna* is neither sunburn nor frostbite alone, for both direct sunlight and low temperatures have to be present. There is an observation in our 1980 *Yearbook* (Jones 1980: 15) that “greater climatic stress than usual” produces an intensification of the colour in foliage varieties, but that seems to refer to bronzing rather than providing a clue as to the cause of the more general, “desirable” colour change. Perhaps it is no coincidence that, according to Lortz (2002: 108) the gold-, orange- and red-foliage *Calluna* are much more susceptible to drought than the greens and greys. It would appear, by chance, that all those illustrated above are post-war introductions by growers exploiting “accidental” mutations, but colour change occurs widely in nature and must be a genetic phenomenon, which raises questions of its evolutionary advantage, and why other,



Figure 2. *Calluna vulgaris* 'Firefly'; 13 March 2005.

naturally occurring, cultivars of summer-flowering species, especially *E. tetralix* which faces cold climates, have not developed in the same way.

The magical effect of these changes of colour is hopefully undiminished (indeed for some, it is enhanced) by an understanding of their cause. All heathers have a basically green foliage through the dominance of chlorophyll as a pigment. However, Small and Alanine (1994: 27–28) have proposed that it is a mutation in some cultivars that allows carotenoids, causing yellow foliage, to dominate over chlorophyll *as long as there is sufficient sunlight*. (This proposal is developed by Small (2000) who suggests that a missing gene is responsible for defective production of chlorophyll.) A third, fascinating joker in the pack of pigments is anthocyanin, which produces gold, orange, and red foliage, as well as coloured flowers. Of particular



Figure 3. *Calluna vulgaris* 'Robert Chapman': 13 March 2005



Figure 4. *Calluna vulgaris* 'Orange Queen';
13 March 2005.

relevance to heathers is the triggering of increased production of anthocyanin by acid soil, low temperatures (below 45°F or 7°C), frost and cold winds, allowing it to dominate over chlorophyll and carotene. Some mutant cultivars, however, have no anthocyanin, and as a result remain with yellow foliage throughout the year, bearing only white flowers.

The evolutionary benefits of red-coloured foliage are not obvious, but anthocyanin is apparently more attractive to insects, and less so to predators, as well as being an anti-oxidant, screening the plant from ultraviolet radiation.

Underhill (1990: 21) referred to

many of the *Calluna* cultivars whose foliage turns to bright red in late autumn winter and early spring. However, on many plants, the colour is intense only on the side facing the sun; these plantings, therefore, should be made directly opposite from the normal point of viewing, so that the colour is viewed face on and not from the side.

The Proudleys (1974: 175) advised that

all with coloured foliage should be planted in full sun for best effect. Try to view the plants from the 'sunny' side if possible.

These observations have a significant implication for their position in the heather garden, as they should be planted to the north (*not even to the east or west*) of their main viewing point.

And yet ... perhaps that is not the whole story. Many heathers develop temporary colour changes as part of their new spring growth, a phenomenon explained by Small and Alanine (1999) as a temporary, genetic obstacle to the production of chlorophyll, especially in cultivars with widely differing geographical origins. In the absence of low temperatures, the spring colouring of the tips of many heathers cannot be due to the same cause – yet there are similarities evident in some spring-foliage growth of both green-foliage summer and even of winter heathers. The strong yellow/orange growth of *E. cinerea* 'Golden Hue', *C. vulgaris* 'Blazeaway', (and of *E. carnea* 'Foxhollow' for a relatively short time) shows only on the sides facing the sun; on the shaded side, they are quite green, suggesting that chlorophyll is present in part of the leaf.

However, not all develop in this way. The spring-tips of *Calluna* 'Kirby White', *E. x darleyensis* 'Darley Dale', 'Furzey', 'Jenny Porter' and 'Silberschmeltze', and *E. x stuartii* 'Irish Lemon' are evenly coloured on all sides. Is the explanation that these are much more erect than cultivars in the last paragraph, thus giving chance for the sun to reach even the north side on new growth?

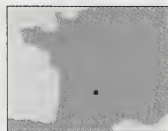
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A heather garden at Meymac in Haute Corrèze

SYLVIE KIRSCH

Le Domaine du Lac, 19250 MEYMAC, France.



We settled here eight years ago. Both Michel and I are artists and our garden is as much a fundamental space for expression and creativity as our painting and sculpture workshops. Over the years, an abandoned field has become a small kingdom of beauty dedicated to acid soil and continental-climate plants, where our visitors amble freely to discover *different* scenes created from a carefully mixed pallet of shrubbery and monumental granite sculpture.

We now have a growing collection of roses, viburnums, dogwoods, maples and ... heathers! Meymac is part of the Plateau de Millevaches which is mostly covered in evergreen forest grown for the wood industry. However we noticed that every tree-free space had *Erica cinerea* and *Calluna vulgaris*. In fact we found out that just over a century ago the entire Plateau was a vast heathland. The President of France, Raymond Poincare, when visiting Haute Corrèze in 1911, was struck by such a deserted area where "only heather, gorse and nettles grow". He sent Marius Vazeilles, who later was to become an emblematic figure of the Plateau, to Meymac in 1913 in order to promote the new government policy for a forestry industry in the Limousin. Marius Vazeilles spent years visiting each landowner in order to persuade them to plant trees. One can see today that he succeeded. Only 5% of the original heaths remain, notably on the Plateau de Millevaches, the Monédières and also the Tourbières du Longéroux where *E. tetralix* thrives.

Part of our property was planted in spruce and pine, but was devastated after the storm in December 1999. Clearing the debris little by little over the next three years we discovered some remnants of large clearings harbouring *Erica cinerea* and *Calluna* and guessed that there was originally heathland here before it was planted with evergreen conifers. Thus it was that we decided to replant heathers and offer our visitors an opportunity to discover this wonderful and beautiful family.

The project has been slow to get underway as it hasn't been easy to find heathers locally. In garden centres one rarely finds more than three different heathers, usually *E. x darleyensis* 'Darley Dale', 'Kramer's Rote' and



'Silberschmelze' usually labelled "winter heather: red, pink or white"! If one is lucky one might find some *Calluna*, again labelled "summer heather: red, pink or white" ('Melanie', 'Red Star' and 'Annemarie'). By sheer persistence we have managed to assemble the beginnings of a modest collection:

Calluna vulgaris 'Alexandra', 'Alicia', 'Allegro', 'Amethyst', 'Annemarie', 'Aphrodite', 'Boskoop', 'Darkness', 'Melanie', 'Red Star', 'Serlei Aurea', 'Silver King', 'Winter Chocolate'.

Erica carnea 'Foxhollow', 'King George', 'Myreton Ruby', 'Springwood White'.

E. cinerea 'C. D. Eason'.

E. x darleyensis 'Darley Dale', 'Ghost Hills', 'Jenny Porter', 'Kramer's Rote', 'Silberschmelze'.

E. vagans 'Mrs D. F. Maxwell', ('St Keverne'?).

Our choice was based on the two indigenous species, *Calluna vulgaris* and *Erica cinerea*, for summer and autumn colour, with the exception for some *E. vagans* which I couldn't resist and, of course, *E. carnea* and *E. xdarleyensis* for colour in winter and spring. A local garden centre gave (it was the only one they had and nobody wanted it!) me a plant of *E. australis*. I wasn't

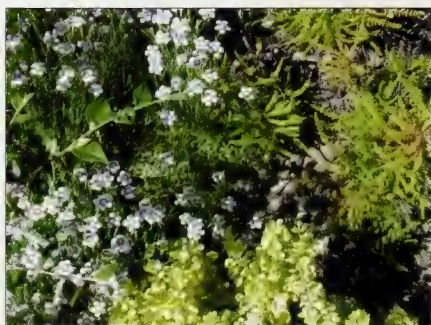
entirely sure of the identification and I didn't have much hope of it surviving the winter, but it's managed three years and has grown 30cm giving delicately pale lavender blooms in April and May. We've had to be most attentive to hardiness, being at an altitude of 800m, not far from the Massif Central, with desiccating north winds during winter and frosts which can last until the first week of June.

My discovery of The Heather Society's website and immediate membership has been a determining factor in the creation of the garden and the choice of plants: the recently published articles by Brita Johansson I find most interesting and useful (*Heathers* 1: 39–41 (2004); — 2: 13–14 (2005)). The Society has also made me feel a little less isolated (if not less “dotty”) in my enthusiasm.

Before this summer (2005) we hope to plant 200 more heathers from the Pépinières Dauguet who I contacted last year for advice on our project.

In *Bulletins of The Heather Society* I have often read people inquiring about companion plants for heathers. Here are a few photographs of our combinations through the year.

In April our *E. x darleyensis* are still well in flower when our daffodils come out. We prefer to keep a horizontal conception and have chosen spreading cultivars of junipers. Too small, and too early to be seen in the photographs, are different violets. In mid-June, none of our heathers are in flower but the combination of textures and coloured foliage can be admired



at their best, enhanced with delicate sprays of columbines and ornamental grasses. A Japanese maple gives an added touch of lightness.

My choice of combination of colours and textures is influenced mainly by the fact that I am a painter, rather than any real knowledge of plants. Miniature *Dianthus* (pinks, carnations) make lovely companions for heathers with their cushions of grey-green foliage and pretty, often bicoloured flowers.



I use a few touches of cool tonalities to break up the monotony of too much green. Here one can see a blue juniper in the background and some *Stachys* the front of some *E. cinerea* and an *E. vagans* (which I think is 'St Keverne').



In July our roses start to flower: here we have 'Alexander Girault', a vigorous Rambler which we cut back severely to give a more shrub-like form. To the left, one may notice some tiny red flowers, *Penstemon pinifolius*, which has heather-like stems and foliage that trick our visitors. The bronze foliage of *Calluna* 'Winter Chocolate', in front of our modest *E. australis*, makes a nice contrast with a dwarf *Berberis* 'Bonanza Gold'.

The annual Californian poppies (*Eschscholzia californica*) spring up each year and brighten up the palette of summer colours. In the autumn only 'St Keverne' remains in flower with a few *Calluna*. Accompanying the reddening leaves of the Japanese maple and the red berries of *Cotoneaster franchetii*. Another *Cotoneaster* I like to use with heathers is the tiny *C. microphyllus* 'Cochleatus' (now called *C. cashmiriensis*).

In another bed I have combined heathers with dwarf rhododendrons such as 'Ramapo' and 'Percy Wiseman' and dwarf conifers such as *Cryptomeria japonica* 'Globosa Nana' and *Picea abies* 'Little Gem'.

We are deeply grateful that The Heather Society exists and that we are not alone or completely insane to love heathers!

For further information see www.domainedulac.net



Miss Irene Fawkes's *Heather* – the “cover story”

E. CHARLES NELSON

Tippitiwicheet Cottage, Hall Road, OUTWELL, Wisbech, PE14 8PE.

I came across this handsome poster (see Frontispiece, p. ii) as a London's Transport Museum postcard among the papers of the late Major-General Pat Turpin, which were presented to The Heather Society by Mrs Cherry Turpin. Intrigued by it, and by the fact that the artist was evidently not well known (she was named erroneously as “Miss T. Fawkes”, and was not listed by Desmond & Ellwood, 1994), I set out to try to gather some information about her.

Irene Fawkes was engaged in the 1920s and 1930s to produce posters for London Underground. Three were reproduced in *By Underground to Kew: London Transport posters: 1908 to the present* by Jonathan Riddell and William T. Stearn (1994): “Kew Gardens by District R^{LY} Direct” (not signed) (Riddell & Stearn 1994: 44); “Rhododendrons Kew Gardens” (Fawkes 1923) (Riddell & Stearn 1994: 43); and “Bluebells! Kew Gardens” (Fawkes 1930) (Riddell & Stearn 1994: 69–70). Riddell and Stearn (1994) provided some biographical notes, and it has been possible to expand these slightly.

Irene was the only daughter of Frank Attfield Fawkes and Sarah Fawkes. The 1901 census listed the family as comprising:

Frank Fawkes age 51, born Camberwell, London (1849): “Manufacturer of Horticultural Buildings and Joinery”.

Sarah Fawkes age 52, born Woodbridge Suffolk.

Marmaduke Fawkes, age 17

Attfield Fawkes, age 16

Irene Fawkes, age 15

Norman Fawkes, age 9.

As there were no other Fawkeses in Chelmsford, and no trace of any other Irene Fawkes at this period, it is safe to assume the records are of her family.

Irene was born in 1886 in Chelmsford, where she was also educated – she attended Chelmsford School of Art (Riddell & Stearn 1994). She was awarded the Silver Medal by the City and Guilds of London Institution.

Irene Fawkes worked as a commercial designer and illustrator, and between 1923 and 1935 produced 22 posters and 13 panel posters for London Transport. She was a teacher of drawing and design in the Sir John Cass Technical Institute, Jewry Street, London (now incorporated in London Metropolitan University) between 1927 and 1935. She taught courses in "Poster and commercial design" and "Drawing and design for apprentices" (Peter Fisher, pers. comm. 2005). The London Metropolitan University's archives do not contain any information about her after 1934–1935, which period coincides with the last of her known work for London Transport. Among the few other facts that can be gleaned about Irene Fawkes are that her work was illustrated in *"The Studio" year-book of decorative art and Commercial art* (a magazine published between 1926 and 1931, after 1932 it was entitled *Commercial art and industry*), and that she lived in London.

Irene Fawkes was also connected with Poole Pottery "established under Jesse Carter and his two sons Owen and Charles. ... Notable Deco designers working for the pottery and tileworks were Truda Carter, John Adams, Irene Fawkes, Olive Bourne and Ruth Pavely with earlier ground-breaking designs by Owen Carter" (<http://www.antiquefairs.co.uk/a-poole-pottery.html>). Her links seem to have been slight, however. According to Hawkins (1980: 81, 205) she was engaged as a freelance for "pattern design and graphic work". Fawkes designed a catalogue cover about 1930 (Hawkins, 1980: 81), while Hayward (1995) noted that she was responsible for designing the "distinctive menu cover" for the Pottery. Hawkins (1980: 125; Prescott-Walker 2000) suggested that she probably designed a seagull motif ("flying low above the waves") for one of the Poole Pottery's ceramic tiles.

While information about Irene is sparse, her father turns out to be an extraordinary individual. His main business was, as the 1901 census recorded, as a manufacturer of horticultural buildings. *Kelly's directory for Essex* (1910) gives "Crompton and F. A. Fawkes Limited, Anchor Works, Anchor Lane, Chelmsford (horticultural builders)". In 1881, he published *Horticultural buildings. Their construction, heating, interior fittings, &c., with remarks on some of the principles involved and their application*.

Yet Frank Attfield Fawkes was not simply a Chelmsford businessman, building greenhouses: he was an author of at least 17 different books (fide The British Library integrated catalogue) ranging from *Babies: how to rear them in health and happiness, etc.* (1883) to *Adventures of a Chemist ... A series of unusual detective short stories* (1930). He also wrote under the pen-name "X" – *Marmaduke, Emperor of Europe. Being a record of some strange adventures in the remarkable career of a political and social reformer who was famous at the commencement of the twentieth century* was published by the local firm E. Durrant

& Co., Chelmsford, in 1895.

Like his daughter, Frank Attfield Fawkes seems to have slipped into obscurity, although the works of both daughter and father fortunately survive in libraries and archives. As for Irene's brothers who might have been expected to keep the family name alive into another generation, no further traces of them have been found.

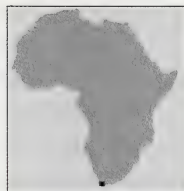
Acknowledgements

I am grateful to the following for their assistance: Peter Fisher (Records & Compliance Officer, London Metropolitan University), Hugh Robertson (Curator (Photographs), London's Transport Museum), Roger Johnson (Chelmsford Central Library); Bill King (Salt Lake City, USA), Geoff Hassell (Manor House Gallery, Cheltenham), Walter Fawkes, Richard Shackle (Local studies, Colchester Library), John Clarke (National Railway Museum, York), Martin Wilkie, Bill Noble (Cambridge University Library) and Dr E. J. Diestelkamp (The National Trust).

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Erica amidae, a new rock-dwelling species near Cape Town, South Africa



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In the last ten years nine new species of *Erica* from the Western Cape, South Africa, have been described in the pages of the Society's *Yearbook*. Most of them were already known from the "incertae" collections in the Cape herbaria, but two were among some very recent new discoveries brought in to the herbarium for identification – *E. hanekomii* E.G.H.Oliv. & I.M.Oliv. (Oliver and Oliver 1999) and *E. filialis* E.G.H.Oliv. (Oliver and Oliver 2001). In this paper another such discovery is described.

In mid-September 2005 Mr Mark Johns, Manager of the Kogelberg Biosphere Reserve just southeast of Cape Town, was checking on the clearing of alien plant species, mainly Australian woody *Acacia* species, on the slopes of the Hottentots-Holland Mountains just above the houses at Gordon's Bay when he noticed an *Erica* plant growing in a rock crevice. He took a small branch back home to his wife, Amida, who is busy recording all the plant species in the Reserve for conservation purposes. She was unable to put a name to the plant using her knowledge of the flora and the electronic key to *Erica* (Volk *et alii* 2004) and so e-mailed an image of the branchlet to me. I was intrigued by the plant because it seemed unlike any other species from that range of mountains. A few days later I met up with Amida Johns at the launch of the new wildflower guide to the flowers of the Stellenbosch to Hermanus area for which she contributed text and many of the photographs. A look at the little sprig which she gave me showed it was very likely new, but I had to check under the microscope, go through my wife's (I. M. Oliver) drawings of all the species of *Erica* and examine collections in the herbarium to be sure.

Still not convinced that a new species could be found so close to such an inhabited and well-known place (Figure 1), I went to the locality with directions from Amida to check if the plant was perhaps not a chance hybrid. This has been the case in a few instances in the past—*E. x flavisepala* Guthrie & Bolus, *E. x vinacea* L. Bolus and several more that have been found recently.



Figure 1. *Erica amidae*. Plant (centre-right) growing on rock face on mountain slope above Gordon's Bay.



Figure 2. *Erica amidae*: closer view; see also Figure 3 (over).

On reaching the location I was immediately struck by the distinctness of the plants and their habitat (Figure 2). The plants, some fifty in total, were growing on very exposed rocky outcrops on steep slopes facing the blazing sun (north in the southern hemisphere). There were no other species of *Erica* on these rocks and only a few species, not in flower, on the open slopes in the vicinity – the only large-flowered one being *E. plukenetii* L. Clearly the plants on the rocks with their long, slender, white tubes with included anthers were not anything like that species and were undoubtedly not of hybrid origin and constituted a distinct, undescribed species. The only other species in the nearby ridge, but at the highest altitudes, with a similar preference for rock crevices is *E. banksii* Andrews subsp. *banksii*, and it, however, has greenish cream, tubular flowers with far-exserted anthers.

I have pleasure in naming this new species after Amida Johns in recognition of her contributions to the recording of the flora of the Kogelberg Biosphere Reserve and its environs, her keenness on conservation of this magnificent flora and for her part in the production of the outstanding flora guide which includes the whole area (Bean and Johns 2005).



Figure 3. *Erica amidae*. Close-up of plant on rocks (Photograph © Amida Johns).

The species has several features which ally it to *E. hibbertii* Andrews in the Section *Pleurocallis* – a long, tubular, slightly sticky corolla with no longitudinal ridges nor spicules, broadly based sepals, approximate bract and bracteoles nearly as long as the calyx, somewhat similar anthers and a terminal inflorescence of one whorl of flowers. That species is restricted to the Franschhoek Pass to Villiersdorp area 35–50 kms northeast of Gordon's Bay. It grows similarly in rock crevices and is very rare. It differs, though, in having orange-red, tubular flowers with green to yellow tips, long linear bract and bracteoles, much thicker and glabrous calyx and 6-nate leaves. As

a result of the last character the inflorescences usually have six or more flowers at the ends of branches. The anthers in *E. hibbertii* are clearly bipartite and have vestigial appendages or lack them.

Other species in the section that look similar are *E. nevillei* L. Bolus, *E. quadrisulcata* L. Bolus and to some extent *E. annectens* Guthrie & Bolus, all three of which are Cape Peninsula endemics and grow on or against rocks. The first two have orange to red flowers that have longitudinal ridges and small spicules, and they have 6-nate leaves. Their inflorescences are compound though, consisting of a terminal, single-whorled inflorescence with lower whorls having 1-flowered inflorescences on highly reduced branchlets in the axils of the leaves all producing a complex group of flowers. *E. annectens* has 8-locular ovaries, 4-nate leaves and its very different anthers are attached dorsally in the mid-region of the theca.

In the nearby Kogelberg Reserve there occurs a common tubular-flowered species having very sticky, dark pink to red, white, green or bicoloured flowers, *E. thomae* L. Bolus. At first glance it was thought that the new taxon was an odd form of the white-coloured variant, but close examination shows numerous differences. The two important differences occur in its having 6-nate leaves (see above species) and in the floral region which consists of 1-flowered inflorescences on very reduced lateral branches in the axils of leaves, these being aggregated into spike-like synflorescence towards the ends of the main branches. *E. thomae* also has a longitudinally ridged corolla with spiculate to pustulate surfaces, sparsely so or more so towards the mouth.

Erica amidae is clearly a rock-loving species with the plants growing only in narrow cracks or in small hollows on the faces of large rocks (Figures 1, 2 and 3). None was seen on any open ground near the rock outcrops. In most cases that were examined, the plants consisted of an extended lignotuberous stem or rootstock wedged in the crack with numerous short branches arising from it. These spread out or hung down and bore the terminal clusters of showy white tubular flowers. Without flowers some of the plants would be very inconspicuous due to the colour of the lichen-covered rock that is composed of the quartzitic sandstone of the Table Mountain Series, so typical of most of the mountains of the Cape Floral Region (Figures 3, 4).

The survival of the plants in these cracks facing the hot blazing sun in summer is a point for wonder. There is the possibility of the deposition of some moisture on the rocks from the profuse clouds that pour over this mountain range during the frequent bouts of strong southeast winds in Summer. This will be investigated in the years to come. The seeds still need to be investigated for dispersal techniques as well as morphological characters.



Figure 4. *Erica amidae*. Small plant growing in rock crevice on sheer rock face.

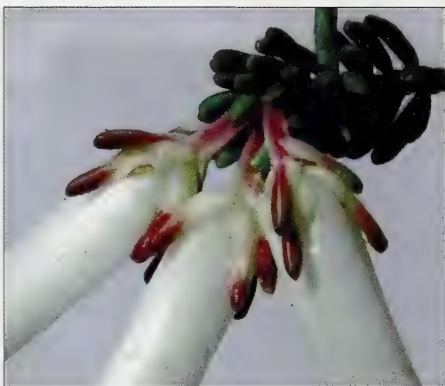


Figure 5. Close-up of base of three flowers in an inflorescence.

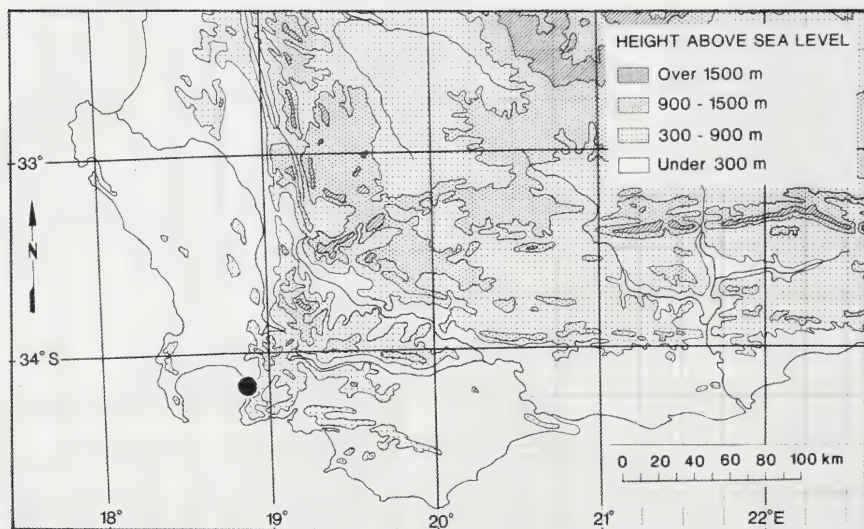


Figure 6. Distribution of *Erica amidae* in the Western Cape, South Africa.

The flowering branchlets that were collected for making the type collection clearly showed basal “heels” where they had broken off from the lignotuber. This feature is distinctive of the species of *Erica* that resprout from a woody rootstock after a fire. In the case of *E. amidae* this seems unlikely on the large rock outcrops but a fire may have singed the plants if the surrounding shrubby vegetation had been allowed to grow old and large between fires. The habit could perhaps have been induced by the extreme conditions under which the plants grow with occasional short, flowering branches being produced from an old perennial lignotuber. Without removing a whole plant one would gather that they are considerably old despite their small size.

With long white tubular flowers that are slightly curved (Figure 5), *E. amidae* is probably bird-pollinated with the little sunbirds being the main agent — see the article on bird-pollination in the last *Yearbook* (Steyn 2005). No birds were seen visiting the flowers when the plants were studied. However, there could well be problems for the little birds when visiting some of the plants due to the lack of perching places on the rocks.

It is astonishing that a clearly distinct, new species of *Erica* should be discovered in a locality so close to civilisation and human activity and within sight of the city of Cape Town where botanical exploration has been going on for some three centuries (Figure 6). The mountain range, the Hottentots-Holland, stretching over thirty kilometres from above Somerset West to the Kogelberg Peak has the richest flora in the whole Cape Region of which about 230 species are from the genus *Erica*.

Erica amidae E. G. H. Oliv., sp. nov., habitu lignotuberoso in fissuris petrarum ramis foliis multis erectis 3-natis vel 4-natis brevibus puberulis inflorescentiis terminalibus univerticillatis, bractea bracteolis sepalibus puberulis, corolla tubulosa alba glabra antheribus calcaribus parvis ovario glabro distinguitur.

TYPE: SOUTH AFRICA, Western Cape, 3418BB, Hottentots-Holland Mtns above Gordon's Bay near the Steenbras Water Filtration Plant, rock outcrops, 250 m, 28 September 2005, Oliver 12352 (NBG, holotype; K, PRE).

Small woody **shrubs** 60–150(–200)mm in diameter, or length, with long prostrate gnarled woody stem or lignotuber in rock crevices or hollows. **Branches**: numerous main branches 25–50(–100)mm long arising from lignotuberosus stem, older portions devoid of leaves but with remnants of grey subinfrafoliar strips of bark, the younger with no infrafoliar ridges shortly hairy with retrorse appressed hairs; internodes 0.5–0.7(–1.0)mm long. **Leaves** 3(4)-nate closely packed towards ends of branches, imbricate to spreading slightly incurved to patent, 4–6mm long, linear, convex abaxially convex to flattened adaxially with rounded to subacute margins,

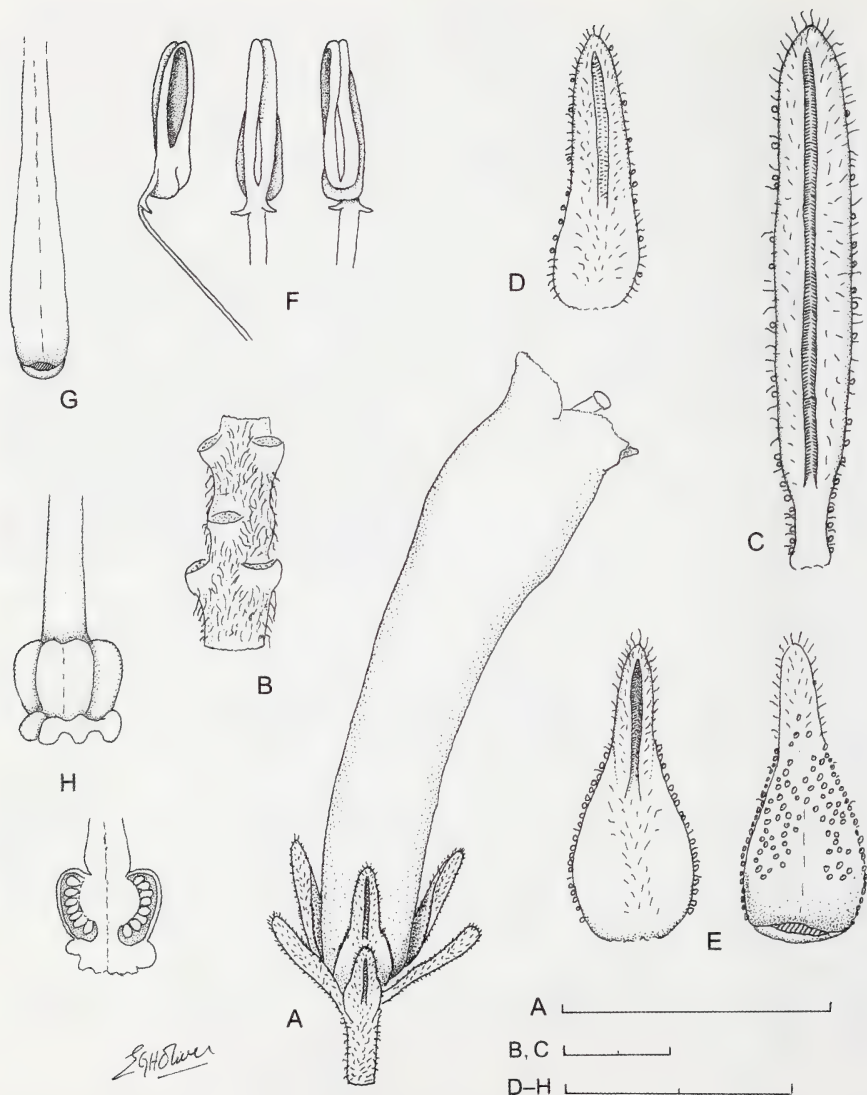


Figure 7. *Erica amidae*. A, flower; B, stem with leaves removed; C, leaf; D, bract/bracteole; E, sepal, abaxial (left) and adaxial (right) views; F, anther, side, back and front views; G, base of filament; H, ovary; whole above, below cut in half longitudinally to show the placentation. Scale bars: A = 10mm; B-H = 2mm. All drawn from holotype, *Oliver 12352*. Drawn by E. G. H. Oliver.

narrowly sulcate sulcus open at base, sparsely hispid-puberulous ab- and adaxially, with a few small reddish brown sessile or shortly stalked glands on the apparent margins; *petiole* appressed 0.7–1mm long glabrous or sometimes hispid-puberulous ad- and abaxially, ciliate with longer hairs and sessile glands. **Inflorescence:** flowers 3(–4) in 1 whorl, sometimes reduced to 1 flower, at ends of main branches or occasionally when apical meristem is damaged then on 1 or 2 very short lateral subterminal branchlets; *pedicel* (2.5–)3–4mm long, pilose, white turning reddish; *bract* partially recalcrescent and mostly appressed to calyx, very occasionally smaller and median in position, 3–5 x 1.5mm long, lanceolate hispid-puberulous on both surfaces, with small reddish sessile glands along margins; *bracteoles* 2, approximate to calyx, sometimes larger than bract otherwise similar to bract in shape and indumentum. **Calyx** 4-partite, segments \pm 5–6 x 2–2.5mm, ovate base and subfoliaceous attenuate sulcate upper half, base white or pale green with green apical portion, all turning reddish with the apex darker, hispid-puberulous abaxially, colourless sessile glands on upper two thirds of adaxial surface. **Corolla** 4-lobed, (15–)18–25(–30)mm, tubular slightly curved with subapical cylindrical to ellipsoid bulge, glabrous, mildly viscid, white; lobes erect-spreading, \pm 1.5 x 2.5–3.5mm oblate-deltoid broadly obtuse minutely fimbriate-erose. **Stamens** 8, free, included or the tips sometimes visible at the mouth; *filaments* \pm 15 x 0.2–0.3mm, linear, slightly expanded 1.3–1.5mm broad towards the base, glabrous, white; *anthers* subbipartite; thecae erect, narrowly lanceolate in adaxial view, 2.5–2.8 x 0.5–0.7mm, oblong and obtuse in lateral view, smooth, golden brown, minutely but distinctly appendiculate, pore 1.7–1.8mm long; *appendages* decurrent on upper part of filament, 0.1–0.2mm long, acuminate, spreading; *pollen* in tetrads. **Ovary** 4-locular, \pm 1.5 x 1.6–2mm, broadly obovoid, emarginate, glabrous, green, with large well-developed reddish nectaries around the base; *ovules* \pm 44 per locule spreading from a placenta in upper half of locule; *style* exerted 2–3mm, narrowly cylindrical slightly swollen towards base; *stigma* minutely capitate dark red. **Fruit** not yet recorded. Figures 5 & 7.

PARATYPE: Western Cape.—3418: Gordon's Bay, rocky outcrops near Steenbras dam filtration station, 240 m, (-BB), 19-09-2005, *Johns 158* (NBG).

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HORTUS ERICÆUS
 WOBURNENSIS:
 OR,
 A CATALOGUE OF HEATHS,
 In the Collection of
 THE DUKE OF BEDFORD,
 AT
 WOBURN ABBEY.

ALPHABETICALLY AND SYSTEMATICALLY ARRANGED.



M.DCC.LXX.

Title-page of George Sinclair's book about the Duke of Bedford's collection of heathers (by courtesy of E. Charles Nelson).



My ancestor, George Sinclair, and *Hortus ericæus woburnensis*

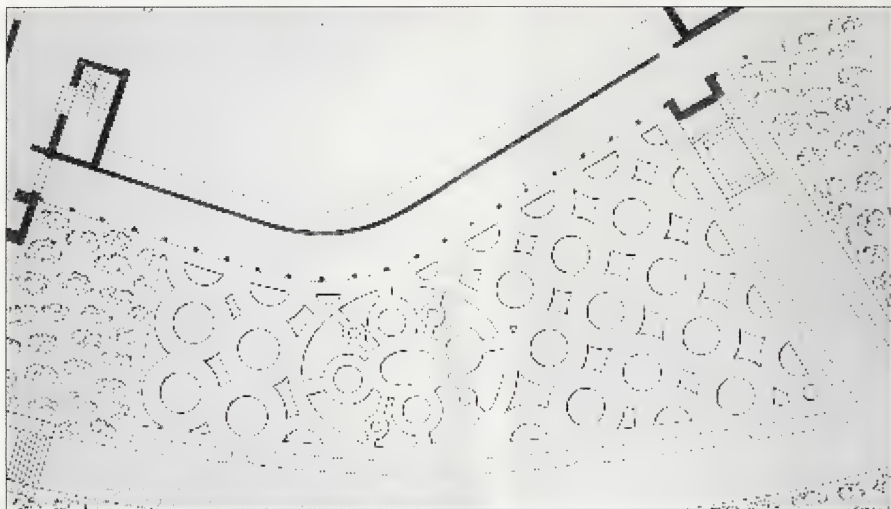
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Hortus ericæus woburnensis: or, a catalogue of heaths, in the collection of the Duke of Bedford at Woburn Abbey (Figure 1) was published in February 1825 (Nelson 2003) and has been variously attributed either to John Russell, sixth Duke of Bedford, or to George Sinclair, the Duke's head gardener at Woburn Abbey. The work is an annotated catalogue of about 400 species of heaths that were in the Duke's collection, and is in two parts. In the first, the different species are arranged alphabetically with a great deal of useful information in abbreviated form, and in the second they are arranged according to the natural system of classification. This use of dual cataloguing to assist gardeners in determining species was an innovation. Another original feature was the inclusion of a colour chart by (Sir) George Hayter, who also did the drawings for the catalogue, to enable the exact colours of specimens to be described.

In the preface we are told that the collection contained both hardy and exotic species, the latter being grown in a special greenhouse which the Duke had constructed and of which there are two lithographs taken at different angles (Figure 3). The former were planted in a parterre (Figure 2) to create an interesting feature in the flower garden. The 35 heaths (species and what would now be called cultivars) which can be cultivated outside are thereupon listed although we are told that after further experimentation some of the more exotic species could also be found capable of being grown outside. Included in this list are ten varieties of *Calluna vulgaris* (as *Erica vulgaris*): "This bears clipping and forms a beautiful edging", we are told. Three varieties of *Erica cinerea* (bell heather) and four of *E. vagans* (Cornish heath) are also listed, as well as three *E. dabeoci* (*Daboecia cantabrica*, St Dabeoc's heath).

I believe that *Hortus ericæus* ... was a collaborative venture and very possibly would not exist if George Sinclair had not been in the Duke's employ. In 1816 George had published *Hortus gramineus woburnensis* which was the



The ground-plan for the hardy heath collection at Woburn, from Sinclair's *Hortus ericaeus* ... (by courtesy of E. Charles Nelson).

result of extensive experimentation on grasses that he had carried out at the Duke's behest. The Duke was very much the driving force in this project but he recognised in George the ability to undertake such a detailed and scientific task. Similarly in his Introduction to *Hortus ericaeus* ... the Duke explains that in 1822 he decided to begin a comprehensive collection of exotic and indigenous heaths as a way of recuperating from a very severe illness but that the collection was completed under the superintendence of his former gardener, George Sinclair. In *Hortus woburnensis*, written later by George's successor James Forbes, the design of the heath parterres at Woburn is also attributed to George and in a letter to the Duke, George Hayter stated that it was George who showed him around the greenhouse and parterres and picked out the heathers to be illustrated. There is evidence amongst the Bedford Estate papers that George made various visits to London, in particular Chelsea and Kew, dealing with the artist's proofs.

There can be no doubt that the physical task of collecting and nurturing a great number of heaths was George's. He was responsible for growing them and he raised new varieties. There is ample evidence amongst the invoices and receipts of the Bedford Estates that George supervised the men working in the heath garden at Woburn Abbey. He personally collected specimens of *Erica* from nurseries at Tooting, possibly William Rollisson's Springfield Nursery, New Cross, Fulham, Woking, Acre House in Lincolnshire and the Vineyard Nursery at Hammersmith, owned by James

Lee and Lewis Kennedy. He also travelled to Southampton, where he bought hardy heaths such as St Dabeoc's heath, white-flowered bell heather and southern heath (*E. australis*) from William Bridgewater Page, and to Bristol, where he made purchases of Cape heaths from John Miller. An 1824 bill from Loddiges of Hackney is particularly interesting. The first five items are hardy heaths and the rest are Capes. One of these is a pair of *Erica incana* priced at £1 10s 0d.: given that the value of the pound at that time was equivalent to almost £60 today that would make the price of that particular Cape heath about £45 at today's valuation!

An interesting feature of the catalogue is the inclusion of a detailed chemical analysis of natural heath soil and instructions as to cultivation, which bears the hallmark of George's horticultural skill. In his earlier *Hortus gramineus woburnensis* he described the extensive chemical experiments that he carried out in order to compare the performance of different species and various mixtures of grasses in different soils. Once again he showed how efficiently he carried out his duties by beginning a systematic investigation to find the best possible growing conditions for the Duke's collection of heaths. This involved him in collecting different types of heath soils and analysing their constituents. There is evidence that in October 1823 he had soil brought from Wavendon Heath to the Abbey, for example. After several years of investigation he concluded that they comprised mainly of humus, which derived from decayed leaves, and sand. He also collected calcareous soils from around Luton and Dunstable and experimented in mixing them with various proportions of peat and ashes to try and find a potting medium suitable for the more exotic specimens of heaths. However, this proved unsuccessful and in the catalogue he recommends a natural heath soil for the growing of different species.

In the greenhouse George also demonstrated his broad range of scientific skills in his search for the most appropriate growing temperatures in summer and winter and the correct amount of moisture and ventilation required.

Family of gardeners to the landed gentry

Quite a lot is already known about George Sinclair. He is included in the new *Oxford dictionary of national biography* and various biographical indexes for botanists and horticulturists. However, there are errors and gaps in the information and I have enjoyed the task of trying to piece together a profile of the real man.

George was born at Mellerstain in Berwickshire, where his father was head gardener to the Hon. George Baillie of Jerviswood, and it is quite likely



The Cape Heath house at Woburn; engraving from Sinclair's *Hortus ericaeus* ... (by courtesy of E. Charles Nelson).

that when he was christened in the nearby village of Earlston on 25 November 1787 he was named in honour of his father's employer. George was the youngest child of seven born to Duncan Sinclair and Christian Tait and had five sisters and one brother, John – my fourth great-grandfather.

Duncan Sinclair had been working at Mellerstain for almost eight years when George was born and was to remain there until his death in 1833. George's uncle, Archibald Sinclair, was also a gardener and in 1791 began working at nearby Minto House until in the early 1800s he was employed as superintendent of the estate at Bonnington House near Lanark by Lady Mary Ross, a distant relative of George Baillie. Like his brother, Archibald remained a loyal servant there until his death, also in 1833.

Nothing is known of George's education but there was a school at Mellerstain that he may have attended. However, his good command of English and the extent of his scientific knowledge indicate that he must have received a formal education of sorts. At the time many gardeners and horticulturists were of Scottish birth and were exceptionally well educated in botany. In *An encyclopaedia of gardening* (1822), J. C. Loudon stressed that importance of a long apprenticeship and self-education in science, literacy and numeracy to the successful training of gardeners. It is quite probable that it was through connections of his father's employer that he gained work as a gardener with the Gordon family and on the marriage of Georgiana Gordon consequently became an employee to her husband, the Duke of Bedford.

The earliest evidence of George being at Woburn Abbey dates from 1807 when he was in charge of men working in the gardens there. By 1813 he was already conducting experiments and publishing papers.

At the same time George's brother, John, was also working as a gardener in the Midlands – at Newnham Paddox in Warwickshire, seat of the seventh Earl of Denbigh. However, John was not destined to achieve the same success in his career as his younger brother. By February 1815 John was working for Thomas Greg Esq. of Coles Park near Westmill in Hertfordshire. Letters from George to his friend, Thomas Gibbs, nurseryman and seedsman to the Board of Agriculture, indicate that George and Thomas were both actively engaged in finding a new position for John. In January 1815 George had met with Greg in Maulden and a position for John was discussed but not confirmed. In a letter to Gibbs, dated 15 February, George confirmed that John had been taken on by Greg as his gardener. In his *Hortus gramineus woburnensis* George acknowledged Thomas Greg's "... many valuable communications on the most important practical parts of the Work; and his kindness on every occasion of enquiry on the subject of it." Unfortunately, it has not been possible to unearth any more documentation about George's connection with Thomas Greg but one can conclude that his brother was probably much involved in the practical aspects that he was referring to and that maybe the acknowledgement was an indirect way of publicly thanking his older brother for his support. Just over a decade later the brothers were still connected in their professional lives. We have already seen that plants for Woburn Abbey, including *Erica*, were purchased by George from Loddiges of Hackney. By 1831 John was living in Hackney and it is more than likely that he was working at Loddiges where experimental work was being carried out in growing exotic species and in hybridisation.

In 1817 in St James Church, Piccadilly, George married Kennedy Gilmour, who had been born in Dunipace, Stirling. George and Kennedy had three children while living at Woburn; twin sons born in 1818, one of whom was named Wriothesley, in honour of the Duke of Bedford's son, and a daughter, Elizabeth, born in 1820. In 1821, in recognition of his services, the Duke gave George a small property in a neighbouring village, as an investment for the rest of his life. At the beginning of 1825, about the time of the publication of *Hortus ericæus...*, George left the employ of the Duke to go into partnership with Cormack and Son, nurserymen and seedsmen in New Cross, one of the nurseries that he often did business with whilst at Woburn. When George left the Duke's employ he remained in professional contact with him and continued to advise him on horticultural matters.

In 1830 the Duke built a new flower market at Covent Garden and George took up a tenancy with his partner, Cormack, in one of the conservatories there. He continued to be busy with his writing, in particular a treatise on *Useful and ornamental planting* which was published by the Society for the Diffusion of Useful Knowledge, and with consultancy work right up until his early death on 13 March 1834. The cause of his death is not known although in a letter to James Sowerby in 1814 George mentioned that he had been ill for a while. At the time of his death it is thought that he was in a depressed state following the deaths of his daughter, his uncle and then his father during the previous year. Sadly his sons did not survive him by many years and his brother had no sons to pass the family's horticultural skills on to.

George's uncle, Archibald Sinclair, was more fortunate in this respect. His son, Archibald, continued as gardener at Bonnington House at least until 1851 and his grandson, also Archibald, was a nursery foreman in King's Road, Fulham in 1881. Another son, Robert, was also a gardener in Westmorland.

George's achievements

According to Charles Macintosh in *The greenhouse, hot-house and stove*, published 1838, the Duke's heathers had the reputation of being, "... one of the best collections of ericas in England." However, except in ..., it is not *Hortus ericæus woburnensis* that George is remembered for. In his obituary, written by J. C. Loudon in the *Gardener's magazine*, his *Hortus gramineus* is described as the most important work of its kind ever published and throughout the nineteenth century it continued to be cited as a valuable reference in the cultivation of grass. A few years ago he was rediscovered by some environmental scientists who were looking for the unnamed

gardener whose experiments are referred to in Darwin's *On the origin of species* (chapter 4 on "Natural selection"). George is thought by them to have conducted the first ecological experiment in the grass garden at Woburn Abbey and his *Hortus gramineus woburnensis* to have influenced the development of Darwin's "principle of divergence" which preceded his theory of evolution by natural selection. The interest generated by this re-emergence even caused examiners in National Curriculum Science tests (2004) to base a question on experimental design on a description of his Woburn experiments.

Having read more than fifty letters and numerous papers written by George, I am struck by the depth of his chemical as well as botanical knowledge, his attention to detail at all times and his extreme professionalism and pride in his work. He was obviously a very competent, dynamic and hard-working man who was continually involving himself in new horticultural projects. He was well-respected by those who knew him, both professionally and in his local community, where he was an overseer of the parish and a member of the Committee of the Board of Health.

George Sinclair is a typical example of his time – that of an exceptional individual from a relatively humble background developing a successful career and enhancing his social status.

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Lucky white heather: a sesquicentennial review of a Scottish Victorian conceit

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The Scots' attachment of good luck to white heather contradicts a general tendency in the folk-lore of northern European flowering plants: to quote Vickery (1995), "many white flowers ... are considered to be inauspicious when taken indoors [and] some people extend this belief to include all white flowers." In Norway white heather is regarded as a sign of bad luck (Petterssen 1994), and in Langesund, southern Norway, heather plants with white flowers are believed to indicate the site of a crime (Høeg 1974; Alm 1999). Indeed, in a study of *unlucky* plants Vickery (1985) reported, under bell heather (*Erica cinerea*), this statement: "My grandfather (a Scottish Royalist) always said that white heather was unlucky because of its connections with the banishment of Bonny Prince Charlie."

The tradition also contradicts generally held superstitions about heather, especially *Calluna* (ling). In Sweden, for example, there is a belief that when ling is brought into the house it will bring bad luck, poverty, or even death, to someone in the family (Johansson 1985, 1994). Remarkably, again with reference to Scotland, Vickery (1985) recorded a Mrs B. Petre recalling that during childhood holidays in the Highlands "we were not permitted to bring either heather or heath into the house, but on the other hand white heather was considered lucky."

Our late President, David McClintock, an avid delver into the arcana of heathers, published an article about the origin of the tradition of lucky white heather in the issue of *Country life* dated 15 January 1970;



Figure 1. White-blossomed heather (ling), *Calluna vulgaris*, in County Kerry, September 2005.

this much-cited article has been reprinted several times – in *Heather news* (Fall 1994) and the *Bulletin of The Heather Society* (Spring 1996). He concluded that even the members of the Heather Society “cannot tell you when or why white heather was first considered lucky”, but he concluded that “perhaps it was an old Scottish belief which Queen Victoria fostered and made fashionable” (see also Vickery 1995; [Mackay 1995]). In fact, McClintock was not the first to chronicle the tradition of white heather – Alexander Wallace had done so in his book *The heather in lore, lyric and lay*, published in New York during 1903.

Queen Victoria and her family, and white heather

I was prompted to revisit David’s article after reading Christopher Hibbert’s *Queen Victoria. A personal history* (2000) in which there are several references, in different contexts, to white heather, and by the fact that the seminal event in the history of *lucky* white heather happened in 1855: 2005 was the sesquicentenary.

McClintock reported that he could find no references to the superstition that white heather was lucky before 1855¹, and that the earliest source was Queen Victoria’s book *Leaves from the journal of our life in the Highlands from 1848 to 1861*. Edited by Arthur Helps (Clerk of The Privy Council), the Queen’s book was originally issued in an edition for private circulation only, but was subsequently published by Smith, Elder & Co., and, so Hibbert (2000: 329–330) related, sold 100,000 copies within three months. The Queen herself was to write that “my book did me more good than anything else”, and while many were critical of its style and contents she dismissed such grumbles. The date of publication was 1868, so the earliest reference, in the public domain, to lucky white heather really should be so dated. In the sequel, *More leaves from the journal of a life in the Highlands from 1862 to 1882*, which was published in 1884, there was at least one more reference to lucky white heather, as noted by McClintock (1970).

McClintock reported that he had found “a mere 11 original references to the superstition before 1900” – it is not clear what he meant by this but he did add that “it is surely significant that the first three definite references and the first six out of the first ten are connected with Queen Victoria and all but one with Scotland.” These first ten references included a novel by William Black, *Macleod of Dare*, published in 1878. Sabine Baring-Gould’s novel of 1883, *John Herring*, contained the statement that “It is said in the West [of England] that the white heather brings good luck to the person that secures it”, while the title of Black’s 1885 three-volume work, *White*

heather. A novel, suggests that the tradition was well established in the public's mind by the mid-1880s. This latter work, described by Wallace (1903) as a tale of "pure fiction", contained an elaborate fable about a girl's search for a sprig of white heather to send to her lover.

As for actually using white heather during the Victorian era, McClintock (1970) reported that sprigs were included in the bouquets of the brides or bridesmaids at the weddings of Princess Helena of Waldeck-Pyrmont to Prince Leopold, Duke of Albany (Queen Victoria's fourth son), on 27 April 1882. Wallace (1903: 163) added that "at the marriage of Prince Leopold ... the bridesmaids wore headdresses composed of clusters of violets, primroses and White Heather" which, given the season, cannot have been *Calluna*; unfortunately, he does not state his source for this description. White heather also featured in the bridal flowers at the weddings of Princess Mary ("May") of Teck, the future Queen Mary, on 6 July 1893 to the Duke of York (King George V to be), and of Queen Victoria's youngest daughter Princess Beatrice, on 23 July 1893, to Prince Henry of Battenburg. Queen Victoria herself recorded that Princess Mary of Teck wore "On her head ... a small wreath of orange flowers, myrtle, and white heather surmounted by the diamond necklace I gave her, which can also be worn as a diadem, and her mother's wedding veil" (Hibbert 1984: 325), while its inclusion in Princess Beatrice's bouquet seems to be confirmed by Queen Victoria's instructions about the burial of the Princess's husband, Prince Henry, who died of malaria in 1896: "... the crucifix to be put in his hand with a piece of ivy, white heather, and myrtle from the Princess's wedding bouquet ...", she commanded (Hibbert 2000: 496).

The language of flowers

Given that *Leaves from the journal of our life in the Highlands from 1848 to 1861* was a sensational best-seller (estimated to have earned £30,000 in royalties for Queen Victoria), there is little reason not to agree with David McClintock that the tradition attributing luck to white heather achieved popularity during her reign. The evidence from other publications seems to support this suggestion. I cannot be sure whether David searched through the numerous books dealing with the language of flowers – I suspect he didn't. In those that were published before about 1870, and which I have managed to examine, there are no entries for white heather, only for "heath" and its meaning is always "solitude" – the same meaning is attributed to lichen! However, in at least one post-1868 edition – Tyas's *Speaking flowers* (1875: 98–99) – there is an entry for white heather and its meaning is given as

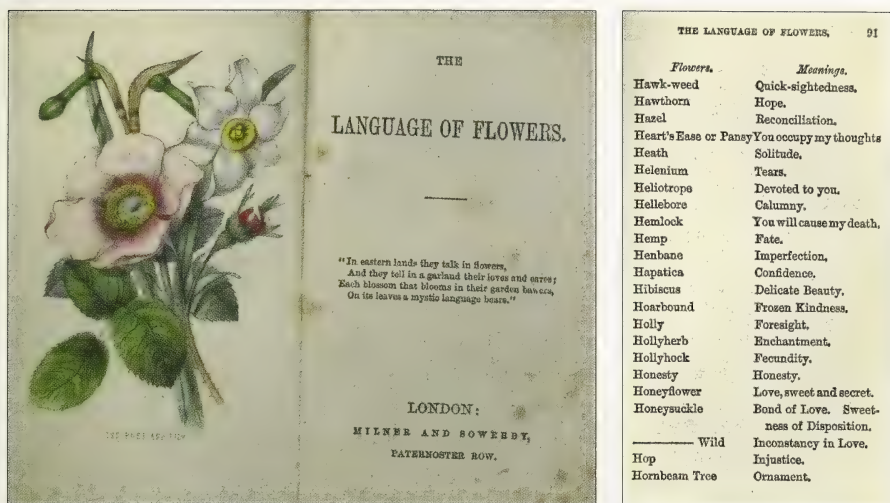


Figure 2. Frontispiece and title-page from an edition of *The language of flowers* published before 1871 (it is inscribed "W. A. Kirby, Scarbro' May 30th 1871"), and the page for the letter H.

"good luck": "it is so regarded in Scotland, as we read in our beloved Queen's *Journal in the Highlands*..." Tyas explained! Under "Good luck", Tyas (1875: 145) noted that it was signified by "white Heather (*Calluna vulgaris*, β alba)".

The Scottish connection re-examined

Hibbert (2000: 294) noted that Queen Victoria "was much struck by coincidences and was superstitious about luck", traits she shared with Napoleon III, Emperor of France.² "White heather was used by the British royal family as a sort of charm, considered lucky for brides", according to *Curious chapbooks and hysterical histories* (chapter 10), but was it a peculiarly Scottish tradition, ancient and so untraceable, yet revealed and then popularized by Queen Victoria?

Let's examine the actual record, bearing in mind that *Leaves from the journal of our life in the Highlands from 1848 to 1861* is a heavily edited version of the Queen's personal journal of her life at Balmoral. The first reference to white heather and its lucky association is contained in the account of the day in the Autumn of 1855 when Crown Prince Friedrich Wilhelm of Prussia (later to be, very briefly, Emperor of Germany) asked the then 14-year old Princess Royal, Princess Victoria, the eldest daughter of Queen Victoria and Prince Albert, to be his bride. On 29 September 1855

Our dear Victoria was this day engaged to Prince Frederick William ... during our ride up Craig na Ban³ this afternoon he picked a piece of white heather (the emblem of Good Luck⁴) which he gave to her; this enabled him to make an allusion to his hopes and wishes, as they rode down Glen Girnoch ...

But the Queen did not herself witness this romantic – and undoubtedly romanticised – moment, according to Hibbert’s account (2000: 239), *contra* McClintock (1970) who implied that she was a witness.

One difficulty is that Queen Victoria’s original diaries do not survive. Princess Beatrice was charged by her mother to burn the originals, which she did. However, Hibbert (1984: 98) provided a transcript of a “Memorandum by the Queen”, dated 29 September 1855, which records a slightly different version of the events on that day. It commences: “I must write down at once what has happened—what I feel and how grateful I am to God for one of the happiest days of my life!” The Queen continued:

When we got off our ponies this afternoon Fritz gave me a look which implied that his little proposal to Vicky, which he had begged us to let him make—had succeeded. ... He said in answer to my question whether anything had occurred, yes—that ... while riding with her, just at the very beginning—he began to speak of Germany, his hope that she w^d. come there & stay there; they were interrupted in fact 3 times, upon one occasion by the picking up of some white heather which he said was good luck—w^h he wished her—and she him ... ⁵

Surely she would not have written about asking the Crown Prince, known in the British Royal Family as “Fritz”, if he had succeeded had she been a witness to the event?

That provokes me to wonder whether this really was an old Scottish tradition? If the act of picking the sprig of white-flowered heather was a spontaneous one on the part of the Crown Prince, and if it was his affirmation that this was good luck, then we may consider it an imported, European superstition. To suppose that on this his first ever visit to Scotland he was prompted by, or even deliberately instructed by, the Queen or Prince Albert or a member of the royal household, to fulfil the requirements of an old Scottish belief (as suggested by McClintock), requiring him to find, collect and present the white heather as a means of contriving to declare his love, seems rather far-fetched. White-flowered bushes of *Calluna vulgaris* (ling), *Erica cinerea* (bell heather) and *E. tetralix* (cross-leaved heath) do occur in the Scottish Highlands, but are not that easily found: in fact, we don’t actually

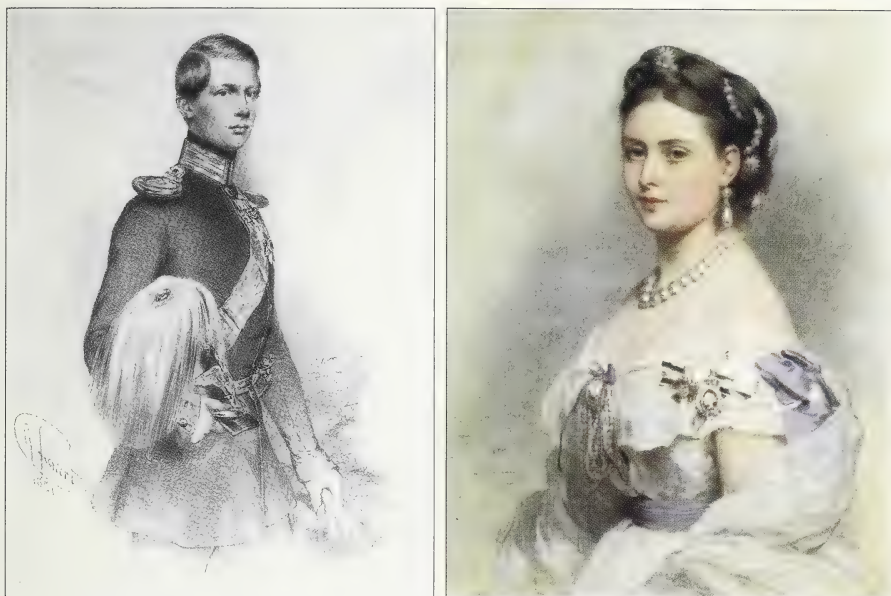


Figure 3. Prince Friedrich Wilhelm as a student, 1851 (left) (in later life he was H. I. M. Friedrich III of Germany), and (right) HRH Princess Victoria, The Princess Royal (a portrait by F. X. Winterhalter, 1867, when she was Crown Princess of Prussia and Germany).

know which heather it was that the Crown Prince plucked and presented to the Princess Royal because the accounts do not record its exact identity.

What is clear, however, is that the action of the Prussian Crown Prince lingered in the memory of the British Royal Family, and became a motif. Perhaps the most telling incident occurred seven years later, on 3 September 1862, when the recently widowed Queen was at Laeken to meet Prince and Princess Christian of Denmark and their daughter Alexandra, the fiancée of the Prince of Wales, "Bertie". "Her whole appearance", wrote Queen Victoria, "was one of the greatest charm, combined with simplicity and perfect dignity. I gave her a little piece of white heather, which Bertie gave me at Balmoral, and I told her I hoped it would bring her luck" (Hibbert 1984: 167). Thus the Princess Royal's younger brother employed the same token to convey a message to his future wife.

The modern "tradition"

In an interesting reversal of the royal tradition, nowadays at weddings in Scotland white heather is more often worn by the groom and his party⁶, than by the the bride. Yet there is a constant in these actions – white heather

is a token between couples, a love-token boding good fortune or good luck. There is no element of chance – of chancing upon a plant of white-blossomed heather in the wild – in the same way as a lucky four-leaved clover. In any case, the element of chance, if it ever was a part of the lore, has been extirpated by the ready availability at every season of a white-blossomed heather.

Malvina and Oscar

There is another twist to this tale, and it is the odder because neither Wallace (1903) nor McClintock (1970) made any mention of it. It is also a twist that may exonerate the Crown Prince and the Princess Royal as the original perpetrators of the contradictory “lucky white heather” tradition.

Searching the Internet reveals a tale which is repeated on numerous sites.⁷ This “Celtic” legend, “an old, old tale and a sad one”, is about Malvina and her lover Oscar. Needless to say, Oscar was a handsome, gallant hero, a warrior and, like all handsome warrior-heroes, was away doing battle. One day, a “ragged” messenger brought Malvina a bunch of purple heather, Oscar’s last token of love before he was slain. Malvina burst into tears and her tears fell on some heather, the flowers of which turned white. Ever afterwards, as she sorrowfully wandered the moors, crying for her dead lover, those of her tears that dripped on to heather instantly turned the flowers white. “Although this is a symbol of my sorrow”, she declared, “may the white heather bring good fortune to all who find it.”

That fable has clear links with the infamous forgeries of the Revd John Macpherson, Minister of Sleat on the Isle of Skye, and his namesake James Macpherson (they were not related). To quote Hugh Trevor-Roper (1982), “between them, by two distinct acts of bold forgery, [the Macphersons] created an indigenous literature for Celtic Scotland and, as a necessary support to it, a new history.” They stole both history and literature from the Irish! “The sheer effrontery of the Macphersons must excite admiration,” declared Trevor-Roper, but “it took a full century to clear Scottish history—if it has ever been cleared—of the distorting and interdependent fabrications of the two Macphersons.” The fabrications included the Ossian cycle of poems: there are several websites on which these texts are posted.

I must however make clear that there is no trace of the story about Malvina, Oscar and the tearful transformation of purple heather into white in James Macpherson’s original Ossian text – not even a hint of it. Where did the tale come from? A possibility, I suggest, may be a mid-nineteenth century edition of *Ossian*, embellished and enlarged by a disciple of the Macphersons. If such a work exists, it is quite possible that it was among the

reading matter of the young princes and princesses when they were on holiday at Balmoral, and maybe when “Fritz” and “Vicki” were out riding, the day of their betrothal, the sight of a white-flowered heather brought to mind the Ossianic tale and Malvina’s wish.

Yet, if that is the case and an embellished nineteenth-century version of *Ossian* exists, I am puzzled about the silence of Wallace and McClintock, and the more puzzled about the lack of any clear leads to this putative work from the websites I have searched. There may, of course, be a late-twentieth-century “Macpherson” at work, continuing to invent tradition and, worse, to add to this ludicrous “chain of error in Scottish history”. My attempts to trace the culprit (or author) have so far completely failed.

Acknowledgements

The quotation from the memorandum written by Queen Victoria (VIC/ Add A 7/9) is published with the permission of Her Majesty Queen Elizabeth II.

I am also pleased to acknowledge the assistance and comments of Miss Pamela Clark, Roy Vickery, Dr Anja Gunderloch, Ronald Black, Jennifer Woods, Howard Gaskill, Dr Fraser MacDonald, Bill Noblett (Cambridge University Library), and, of course, the late David McClintock.

Notes

¹ To exemplify the silence about white heather being a token of good luck, Ann Pratt’s *Flowering plants of Great Britain* volume 3 contains substantial material about heather, including the statement that *Calluna vulgaris* (ling) “... is an exceedingly beautiful plant ... occasionally bearing white flowers.” She quoted George Luxford who opined that it was “a very elegant plant. The red and the white-flowered varieties, with their smooth, deep green, closely imbricated leaves, are pretty and delicate...”. There is no mention of it being a lucky plant. Mrs Pratt also noted “old traditions, still extant in Ireland, ... that the Danes made beer of the Heath”, and that it was used in the Scottish highlands to make ropes, and in the Western Isles to dye yarn.

² She is also alleged to have named one of her cats, a black and white Persian, “White Heather” (see Victorian Cat Society of CLAW, <http://www.geocities.com/meowser18/Vic/> accessed 10 October 2005). However, Miss Pamela Clark (Registrar, The Royal Archives) informed me, in a letter dated 15 December 2005, that “we have been unable over the years ... to find any reference in our records to the cat “White Heather” ... or, indeed, to find any reference to any cat owned by the Queen.”

³ Creag nam Ban is the current spelling of this toponym according to the Ordnance Survey. It is a granite hill (527m, 1,735ft; GR NO290945), situated south-east of Abergeldie Castle, and 5km east of Balmoral. A 40-year lease on lands of Abergeldie was purchased by Prince Albert, the Prince Consort, in 1848. Glen Gironch lies on the eastern side of Creag nam Ban and small tributaries of Gironch Burn drain its eastern flank.

⁴ Given that in *The language of flowers* heath is stated to indicate solitude, one wonders indeed why he chose to pick heather. Perhaps he knew nothing about the coded system of sending messages. It is also noteworthy that he was not misunderstood!

⁵ Queen Victoria, Memorandum 29 September 1855; original ms, The Royal Archives, Windsor Castle: VIC/ Add A 7/9: transcript by courtesy of Miss Pamela Clark, Registrar.

⁶ For example, <http://www.brideworld.com/plan/traditions.htm> (Accessed 10 October 2005).

⁷ For example <http://www.scottishwhiteheather.com/heatherstory.html>; <http://www.greatclanross.org/icons2.html>; www.clan-macpherson.ca (Accessed 10 October 2005).

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The mysteries of *Erica ciliaris* and *E. tetralix*

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One of the star attractions at the 2005 Conference of The Heather Society was a field trip to the Arne Peninsula in search of *Erica ciliaris* (Dorset heath). The Peninsula is close to Poole Harbour in Dorset and has wide stretches of heathland. This was a new experience for me. A year ago I couldn't tell the difference between *E. cinerea* (bell heather) and *Calluna vulgaris* (ling), even though my own garden overlooks heathland covered by a fine display of both. How would I get on with *E. ciliaris*? The challenge increased when our guide told us that *E. ciliaris* was cohabiting with *E. tetralix* (cross-leaved heath) and that they hybridise producing *E. × watsonii* (Watson's heath).

When we arrived on the heath it was soon apparent that, in spite of the rain, most of the party could identify *E. ciliaris* and distinguish it from *E. tetralix*. Was it the colour and shape of the corolla, the distribution of flowers on the stems, the number of leaves in the whorls along the stems, or the size, shape and form of the low-lying bushes? I suspect that all these features were important. However, according to the experts, the acid test was the presence or absence of appendages on the anthers. To demonstrate, a flower was held between finger and thumb and the corolla carefully removed to reveal the stamens hidden by the corolla. The stamens were examined with a strong eye lens. *E. ciliaris*' anthers are free of appendages, sometimes called awns or spurs, whereas two slender horn-shaped appendages extend from the back of the anthers of *E. tetralix*.

I collected samples to examine under a light microscope when I got home. Figure 1 is a photograph of anthers without appendages, presumably belonging to *E. ciliaris* and Figure 2 is a photograph, at the same magnification, of anthers with two horn-shaped appendages, presumably belonging to *E. tetralix*. The anthers of *E. ciliaris* are much larger than those of *E. tetralix*. Simple sketches of the stamens are shown in Figure 3 and illustrate the gently curving sheet filaments attached to the back of the anthers.

These simple observations confirm those made in the rain. But, I asked myself, is it all so simple. If *E. ciliaris* and *E. tetralix* hybridise can I be sure



Figure 1. Anther of a relatively pure *E. ciliaris* (Dorset heath).

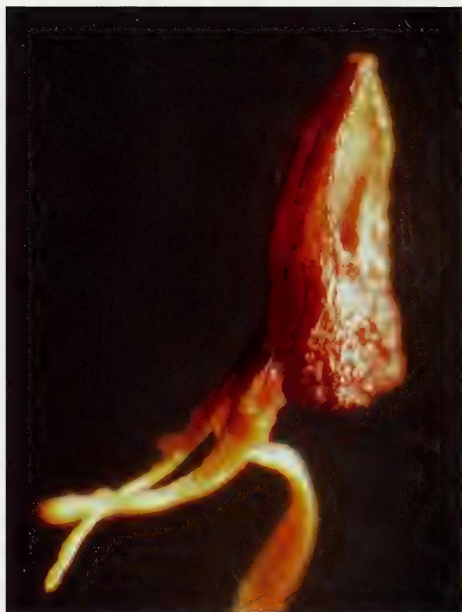


Figure 2. Anther of a relatively pure *E. tetralix* (cross-leaved heath).

that these observations are not from heathers intermediate between the two species?

The quest for an answer has taken me to libraries and microscopes. One of the most authoritative accounts of the characteristics of plants is *The Flora of the British Isles* (third edition) by A. R. Clapham, T. G. Tutin and D. M. Moore, published in 1987 by Cambridge University Press. Here it is possible to follow a key to identify species. Each key is followed by a detailed account of the characteristics of each species. There are numerous differences between *E. ciliaris* and *E. tetralix*. Not all would be immediately obvious standing in the rain in the middle of boggy heathland! Perhaps the experts were being kind to me when they suggested an examination of the anthers.

I decided to catalogue, with the help of microscopic studies, the five samples I had collected from a very small site on the Arne Peninsula. I used ten of the main characteristics for comparison with the descriptions given in *The Flora of the British Isles*. The story started to get more complicated. The characteristics of the five samples were all different. The samples used for the photographs of the anthers shown in Figures 1 and 2 had a range of characteristics close to those of *E. ciliaris* and *E. tetralix* respectively. The



Figure 3. Sketch of stamens of (a) *E. ciliaris* and (b) *E. tetralix* drawn to same scale.

examined to determine the distribution of these species in Dorset, particularly in the heathlands around Poole Harbour, including the Arne Peninsula. The characteristics of the samples were evaluated according to how close they corresponded to those identified as being the basic characteristics of *E. ciliaris* and *E. tetralix*. After my own tentative observations I wasn't surprised to discover that this survey revealed a very wide and continuous range of characteristics from "relatively pure *E. ciliaris*" to "relatively pure *E. tetralix*". It seems that *E. x watsonii* is anything in between, which makes it impossible to give it well-defined characteristics. Far better, in my view, to describe these heathers as "hybrids of *E. ciliaris* and *E. tetralix*".

An outing, as part of the Annual Conference of The Heather Society, has provided me with fascinating insights into the complex world of taxonomy and genetics. Thanks to the experts.

other three samples had characteristics between these two species in no obvious systematic manner. For example, the anthers in one of the samples had very short appendages and there were wide variations in the hairiness of the ovaries ranging from glabrous to pubescent. Obviously, this is the result of hybridisation and the other three samples were *E. x watsonii*.

Back in the library, a paper in the *Journal of ecology* 63 (pp 809–823) by S. B. Chapman entitled "The distribution and composition of hybrid populations of *Erica ciliaris* L. and *Erica tetralix* L. in Dorset", tells a more detailed story. In the study, described in this paper, thousands of samples were

Urze Durazia – the heather of Porto Santo

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The *Erica scoparia* plants from the Madeiran archipelago all belong to the endemic subspecies *E. scoparia* subsp. *madericola*.

On Madeira *E. scoparia* subsp. *madericola* is quite common and grows to a height of 4 metres (L. O. Tranquinho & A. da Costa, *Flowers of Madeira*). According to a photograph in *Flora endémica da Madeira*, the flowers are red / orange which they are definitely not here on Porto Santo.

On this island, Urze Durazia (the local name for *E. scoparia*) grows only to about 1° metres tall; I have never seen really tall plants. It is only found at higher altitude in the extreme northeast.

In the publication *Pico Branco: a peculiar floristic site on Porto Santo island*, p. 44, it is noted that at the beginning of the fifteenth century Porto Santo was covered by the following plants – mainly dragon trees (*Dracaena draco*), many of which were cut down for wood and to make varnish; juniper (*Juniperus phoenicia*) which is rare and only found on Pico Branco; *Apollonias barbuja*, which is now extinct; *Sideroxylon marmulano*, now found only at Serra de Dentro; olive (*Olea europaea*), which is now only on Pico da Ana Ferreira; and *Erica scoparia*, which is now only high up on Pico das Urzes, the southern portion of Pico Branco. It is considered that the destruction of the vegetation resulted in decreased rainfall, followed by soil erosion by the wind, and more destruction of vegetation.





Urze Durazia

Rosemary Hood
Porto Santo. 10/6/05

A small number of cuttings of the Porto Santo *E. scoparia* subsp. *madericola* were collected from five plants on Pico das Urzes which is around 350m in height, and these are presently in the propagation facilities at David Edge's Forest Edge Nursery.



Figures 1 and 2. *Erica scoparia*, urze durazia on Pico das Urzes, Porto Santo . © Rosemary Hood 2005



Notes on heather seeds I: Photographing seeds

ALLEN HALL

10 Upper Green, LOUGHBOROUGH, LE11 3SG.

These seeds were photographed digitally using a monocular microscope and a Canon D300 digital camera. Colour corrected incident light was used. The camera settings were 400 ISO sensitivity and 1/160 speed. The aperture was entirely dependent on the microscope optics and could not be adjusted.

The microscope was fitted with a 5x objective lens and a x2.5 eye piece specially designed for use with an attachment for the Canon camera. To discover the actual magnification achieved at the 22.7 x 15.1mm camera sensor, a millimetre scale was photographed through the microscope. Four complete millimetre divisions were recorded by camera – giving a magnification of x5.6. (This recorded scale was used subsequently to scale each image.) Even at this low magnification, it did not prove possible to get a completely sharp image of even a small seed.

Therefore a series of 5 or 6 photographs were taken of each seed or group, the focus of the microscope being shifted slightly for each photograph. The images were immediately loaded into a computer and observed so that more photographs could be taken in the same session if necessary. To obtain a completely sharp image, suitable parts of the photographs of a seed were selected in Adobe Photoshop and the layers palette used to merge them. Thus, a sharp image of the crown of a seed would be merged with a sharp base of the seed taken from another photograph in the series. Sometimes a third selection was necessary for the intermediate parts of a seed.

Notes on heather seeds II: Dimensions of seeds

E. CHARLES NELSON

Cultivar Registrar, The Heather Society

There has been a considerable increase in the amount of information available about the seeds of hardy, northern hemisphere heathers, thanks especially to Dr Maria Isabel Fraga Vila, and more recently, Jaimé Fagundez, Universidad de Santiago de Compostella, Spain, whose papers have been noted in the past issues of this *Yearbook*.

All the same, Allen Hall's photographs suggest that we still lack information about the variation in seed size and other characters. The seeds are shown at the same scale, by which it can be seen that the seed of *E. australis* 'Mr Robert' is by far the largest. The following data about seed dimensions are assembled from various sources. NB Huckerby *et alii* (1972) only gave



Erica australis



Erica ciliaris



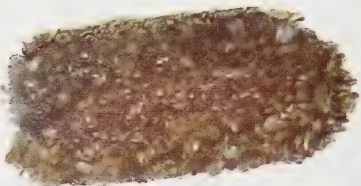
Erica cinerea



Erica lusitanica



Erica erigena



“maximum dimension” and the mean length indicated below by the figures in brackets*.

E. andevalensis: 0.37–0.38 x 0.26–0.28mm (Fagundez & Izco 2004a).

E. arborea: 0.4–0.6 (0.49*) (Huckerby *et alii* 1972); 0.4–0.6 x 0.2–0.3mm (Fraga Vila 1983, 1984).

E. australis: 0.4–0.6 (0.48*) (Huckerby *et alii* 1972); 0.4–0.6 x 0.3mm (Fraga Vila 1983, 1984); 0.9–1.1 x 0.4–0.5mm (Fagundez & Izco 2004b). The disparity between these two sets of measurements is not easy to explain, but the seeds of ‘Mr Robert’ are consistently around 1mm long.

E. carnea: 1.0–1.14 (1.07*) (Huckerby *et alii* 1972); 1–1.2 x 0.6–0.65mm (Fagundez & Izco 2003b).

E. ciliaris: 0.3–0.5 (0.4*) (Huckerby *et alii* 1972); 0.4–0.5 x 0.2–0.3mm (Fraga Vila 1983, 1984).

E. cinerea: 0.7–0.9 (0.76*) (Huckerby *et alii* 1972); 0.7–1.0 x 0.5–0.7mm (Fraga Vila 1983, 1984).

E. erigena: 0.8–1.0 (0.91*) (Huckerby *et alii* 1972); 0.9–1.0 x 0.5mm (Fraga Vila 1983, 1984); 0.9–1.0 x 0.5–0.55mm (Fagundez & Izco 2003b).

E. lusitanica: 0.4–0.65 (0.48*) (Huckerby *et alii* 1972).

E. mackaiana: 0.36–0.44 (0.39*) (Huckerby *et alii* 1972); 0.3–0.4 x 0.2–0.3 (Fraga 1983); 0.4–0.45 x 0.31–0.33mm (Fagundez & Izco 2004a).

E. multiflora: 0.5–0.7 (0.61*) (Huckerby *et alii* 1972).

E. scoparia: 0.4–0.62 (0.51*) (Huckerby *et alii* 1972); 0.4–0.6 x 0.3 (Fraga 1983); 0.4–0.6 x 0.2–0.3mm (Fraga Vila 1984); 0.45–0.65 x 0.3–0.35mm (Fagundez & Izco 2003a).

E. terminalis: 0.3–0.54 (0.43*) (Huckerby *et alii* 1972).

E. tetralix: 0.3–0.42 (0.37*) (Huckerby *et alii* 1972); 0.3–0.4mm long (Szkudlarz 2001); 0.3–0.4 x 0.2–0.3mm (Fraga Vila 1983, 1984); 0.36–0.43 x 0.27–0.33mm (Fagundez & Izco 2004a).

E. umbellata: 0.5–0.6 (0.55*) (Huckerby *et alii* 1972); 0.3–0.5 x 0.2–0.4 (Fraga 1983); 0.5–0.6 x 0.2–0.3mm (Fraga Vila 1984). [Fraga Vila’s dimensions conflict; her 1983 paper seems to have contained erroneous dimensions.]

E. vagans: 0.45–0.65 (0.50*) (Huckerby *et alii* 1972); 0.4–0.6 x 0.5mm (Fraga Vila 1983, 1984).

Considering these data, the largest seeds are those of *E. carnea*, *E. erigena* and *E. australis* (all around 1mm long), while the smallest, around one third the size of the largest, are produced by *E. mackaiana* and *E. tetralix*.

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A Kerry diary: 3 September 2005

E. CHARLES NELSON

Tippitiwitchet Cottage, Hall Road, OUTWELL, Wisbech, Norfolk, PE14 8PE.

3 September, 10am: grey clouds are racing from the southeast, unusual for this place. It's warm too, 20°C. Rain will probably fall before the day's done.

50 yards to the west is a small, stone-built bridge, spanning a mountain stream. The dwarf, western gorse is in bloom (bright yellow), with yarrow (grey-white), some clumps of devil's-bit scabious (blue), ragwort (yellow); ferns everywhere too, beginning to look a bit tatty at this tail-end of summer. There are clumps of ling (pale mauve, some darker) and bell heather (rich purple). Most of the bell heather is past its best but the bumblebees are still working the spikes. Ling is not yet all in full bloom – promises flower for a month or more to come.



Figure 1. *Erica mackaiana* and western gorse (*Ulex gallii*) in County Kerry. Note the dense hummocks of Mackay's heath.



Figure 2. Mackay's heath in bloom in early September 2005 in County Kerry; note the presence of both fresh and faded flowers indicating this colony blooms continuously for several months.

100 yards further on, westwards, on the right-hand side of the road, almost in line with the electricity pylon is a very remarkable sight, a bank (not easy to get to!), solid (the only word) with Mackay's heath. In the morning sunlight the old flowers glow like rust – a rich tan – and the fresh, mauve ones are bright too. This bank of heather continues, unbroken, west for almost 50 paces.

This seems to be one clone, or maybe two as there is a little difference in flowering time apparent – or maybe Stuart's hybrid is intermingled. It's treacherous territory, very broken with hidden dips, criss-crossing ditches, and ankle-wrenching hollows.

At the track leading down-slope into the forestry (spruce) plantation, on either side, Mackay's and Stuart's heaths and cross-leaved heath form clumps. There's even a few sprigs of white ling (lucky?).

This is the main site, between the two bridges, where David Edge saw these heathers in the summer of 2003 – for the first time. I was sceptical, I admit, when the specimen reached me and David couldn't give an exact locality. He went back in November 2003, refound the heather, and sent me

a map – X marks the spot! July 2004, I visited the same locality (aided by a grant from the Botanical Research Fund) – this 2005 visit is partly courtesy of the Limerick Garden Plants Groups and Kodak (because my films in 2004 were irretrievably lost in processing!)

Although this is an area very much altered by the forestry plantations, it's clear the heathers have benefited, taken advantage of the disturbance caused by ploughing, prior to planting the spruces, to form these massive clumps. The forestry has made the plant noticeable. If it was not for the high-tension power line that strides across the valley, perhaps the whole area would have been a sea of spruce without any of the heather remaining.

The sun breaks through; the tan florets glow and the yellow gorse and ragwort sparkle. Time to move on, watchfully, into the Inny Valley.



Figure 3. *E. mackaiana* at the same site taken by David Small a month earlier whilst assessing the extent of the population.

A review of new botanical names published in *Yearbook of The Heather Society*, series 1 (1963–1993) & 2 (1994–2003)

E. CHARLES NELSON

Cultivar Registrar, The Heather Society; Tippiwitchet Cottage, Hall Road, OUTWELL, Wisbech, PE14 8PE.

Within the 40 issues of The Heather Society's *Yearbook* published between 1963 and 2003, a small number of new botanical names were published formally in accordance with the *International code of botanical nomenclature*. Dates of publication are published for the individual **series 2** issues – these dates can be found printed on the inside back-covers of the issues from 2000–2003 inclusive. The principal purpose of this note is to clarify dates of publication for the **series 1** issues containing new names, and the present location of the relevant type specimens. I am most grateful to the Society's Administrator, Mrs Anne Small, for searching the Society's records for these dates.

In several cases the type specimen was stated to be in "Hb Heather Society" (there is no acronym for this herbarium) which was kept by the late David McClintock in his own house. Following his death in 2001, as was always intended, the specimens were moved to the herbarium of the Royal Horticultural Society Garden, Wisley (**WSY**) (Miller & Nelson, in press). The specimens which have been checked by the present author are marked "!".

SERIES 1 (1963–1993)

Daboecia cantabrica (Huds.) C.Koch

f. blumii D.C.McClint.: *Yearbook of The Heather Society* 3, no. 2: 47 (1984: published 5 March). The holotype, from a cultivated plant (*in horto* De Voorzienigheid, Steenwijkerwold, Holland. *leg.* H. M. J. Blum, 20 August 1983), is in **BM!**

The *Yearbook* description was reprinted in *Ericultura* no. 54: 26 (April 1984); it is clear that this followed the *Yearbook* because Herman Blum, having been asked repeatedly by McClintock not to publish any account of erect-flowered *D. cantabrica* seedlings, was very surprised to see his name perpetuated in *f. blumii* in the *Yearbook* (J. G. Flecken, pers. comm. 7 March 2004).

Erica manipuliflora Salisb.

f. albiflora D.C.McClint.: *Yearbook of The Heather Society* 3, no. 6: 44 (1988: published 22 July).

The holotype (Lara Bay, Antalya, Turkey. *leg.* Mrs Olivia Hall. 1 October 1987) was stated to be in The Heather Society herbarium: it is now in **WSY**!

subsp. anthura (Link) D.C.McClint.: *Yearbook of The Heather Society* 3, no. 10: 16 (1992: published 28 July).

A new combination based on *Erica anthura* Link.

E. scoparia L.

subsp. madericola D.C.McClint.: *Yearbook of The Heather Society* 3, no. 7: 35 (1989: published 8 November).

The holotype, from a cultivated plant (*in horto* Bracken Hill, Platt, Kent (*ex* Madeira). *leg.* D. McClintock. 31 May 1980), was stated to be in The Heather Society herbarium: it is now in **WSY**!

E. vagans L.

f. viridula D.C.McClint.: *Yearbook of The Heather Society* 3, no. 7: 54 (1989: published 8 November).

The holotype, from a cultivated plant (*E. vagans* 'Viridiflora', *in horto* Cottswood, West Clandon, Surrey. *leg.* P. G. Turpin. 24 October 1981), was stated to be in The Heather Society herbarium: it is now in **WSY**!

SERIES 2 (1994–2003)

In this series of ten issues of *Yearbook of The Heather Society*, nine new species of *Erica* from South Africa were described and named (see below), and the following names were also published for "hardy" heathers.

E. x garforthensis D.C.McClint.: *Yearbook of The Heather Society* 2000 (published 19 March): 17.
An artificial hybrid, *E. tetralix* L. x *manipuliflora*: the holotype was stated to be in **WSY**!

E. mackaiana Bab.

f. multiplicata E.C.Nelson: *Yearbook of The Heather Society* 1995 (published 22 February): 40.
The holotype was stated to be in **DBN**!

E. spiculifolia Salisb.

f. albiflora (D.C.McClint.) E.C.Nelson & D.C.McClint.: *Yearbook of The Heather Society* 1997 (published 7 March): 13.

A new combination based on *Bruckenthalia spiculifolia* (Salisb.) Reichb. f. *albiflora* D.C.McClint.; the holotype is in **BM**.

Reference

MILLER, D. M. & NELSON, E. C., *in press*. The Heather Society's Herbarium, and Ericaceae (*Bruckenthalia*, *Daboecia*, *Erica*) type specimens cited by D. C. McClintock (1913–2001). *Glasra* (in press).

ERICA SPECIES FROM SOUTH AFRICA

- E. filialis* E.G.H.Oliv.: *Yearbook of The Heather Society* 2001 (published 13 March): 12 (holotype NBG).
- E. hanekomii* E.G.H.Oliv.: *Yearbook of The Heather Society* 1999 (published 15 March): 42 (holotype NBG).
- E. ignita* E.G.H.Oliv.: *Yearbook of The Heather Society* 2000 (published 19 March): 67 (holotype NBG).
- E. jugicola* E.G.H.Oliv. & I.M.Oliv.: *Yearbook of The Heather Society* 2002 (published 25 February): 33 (holotype NBG).
- E. kirstenii* E.G.H.Oliv.: *Yearbook of The Heather Society* 2000 (published 19 March): 60 (holotype NBG).
- E. kogelbergensis* E.G.H.Oliv.: *Yearbook of The Heather Society* 1996 (published 8 March): 3 (lectotype BOL).
- E. oakesiorum* E.G.H.Oliv.: *Yearbook of The Heather Society* 1997 (published 7 March): 18 (holotype NBG).
- E. penduliflora* E.G.H.Oliv.: *Yearbook of The Heather Society* 2001 (published 13 March): 37 (holotype NBG).
- E. schumannii* E.G.H.Oliv.: *Yearbook of The Heather Society* 1998 (published 18 February): 35 (holotype BOL).

Heathers 2 (2005): corrigenda

Despite the best endeavours of everyone concerned with the production of the 2005 *Yearbook*, there are several regrettable errors in Richard Canovan's article. Please note the following corrections.

p. 3: the final sentence of the middle paragraph should read: These trends since 1989 are vividly illustrated in Figure 2.

p. 9: the caption to Figure 6 is incorrect. It should read: One of the unnamed Dalmatian clones of *Erica manipuliflora* (AWJ5) in full bloom as *E. vagans* 'Birch Glow' fades; *E. erigena* 'Glaucua' is in the background and golden-foliaged *E. carnea* 'Golden Starlet' is just visible (left) (© R. Canovan).

p. 9: insert a reference to Figure 6 in the second sentence of the first paragraph, after the phrase "unnamed Dalmatian clones".

p. 10: delete the reference to Figure 6 in the first sentence of the second paragraph.

I should also make clear that while Figure 6 shows plants growing in Richard Canovan's garden at Toothill, the plants in Figure 3, 4 and 5 were not photographed there; those illustrations were selected from The Heather Society's slide library.

p. 57 the heading should read © E. C. Nelson & E. G. H. Oliver.

I apologise for these errors and omissions.

E. Charles Nelson (Hon. Editor, *Yearbook of The Heather Society*).

**ANNUAL GATHERING & 34TH ANNUAL CONFERENCE,
BOURNEMOUTH, 9–12 SEPTEMBER 2005**

Journeying to Bournemouth for the Annual Gathering, passing through the New Forest, was an appropriate introit – the heather was in bloom on the heaths.

By early evening we had all gathered, old-timers and new-comers, stalwarts and novices. As usual it was an international assembly – the Kays (conference organizers *par excellence*!) from Ireland, Eileen Petterssen and Egil Asbjørn Sæle from Norway, Judy Wiksten from Sweden, Walter Wornick from the USA, joined company with folk from the “four corners” of England and Scotland.

After a convivial dinner, the Chairman, Arnold Stow, welcomed members to this 34th annual get-together, and we settled down to listen to a fascinating lecture from Professor Nigel Webb, a member of the Society, about the cultural origins of heathland in post-glacial western Europe. He showed how a traditional method of farming a small plot of marginal land, supporting one family and their animals, created an economy that led to acidification of adjacent land and the spread of heath-like shrubs. When Professor Webb’s talk concluded we were treated to a surprise – heather honeys! Pure cross-leaved heath honey is runny and fragrant, whereas pure ling honey is viscous, fragrant and has a sharp after-taste (at least that is how my taste-buds reacted). Robert Field, a local bee-keeper and Vice-Chairman of the Bee Farmers Association, spoke passionately about his livelihood and his bees and had samples of their honeys to taste. A nicely rounded evening, demonstrating two aspects of the economy of heather, concluded with amiable conversations and night-caps, while Alan Kay, acting as a very persuasive salesman, had been selling some of the heathers members had donated for the plant-sale (a third economy!).

Saturday was an out-and-about day. We headed west to the Arne Peninsula, to meet Nigel Webb in the field. Alas it began to rain, but that did not diminish the pleasure of seeing Dorset heath in the wild. Along with it was plenty of Watson’s heath, distinguished by (hand-lens at the ready!) its spurred anthers and somewhat furry ovary – two characteristics inherited from its other parent cross-leaved heath. After satisfying ourselves that we could tell Dorset from Watson, we moved on to the RSPB’s reserve where we were met by Dr John Day, Dorset Area Manager for the RSPB, who conducted us on a walk over the heathland portion of the reserve. He explained work on the restoration and maintenance of the heathland, and its significance as a habitat for animals such as the Large blue butterfly and sand lizards. Again we saw Dorset heath, and Watson’s too, and on the higher ground cross-leaved heath rather more bushy and vigorous than I usually expect.

We ate our picnic lunches as we were driven eastwards to the other side of Poole Harbour for a visit to Compton Acres, an eccentric 10-acre garden created during the early part of the last century. We formed two groups for the guided tour. This is a compartmental garden with formal garden “rooms” leading from one to another – Roman, Italian, Palm Court – and less formal areas such as the Rock Garden and Water Garden. The place was sadly neglected in the post-war period but it is now



Compton Acres: hearing all about the stones in the 'heather garden' from our guide, Joseph (photograph Allen Hall)

being restored (and embellished with shops and other "attractions"). I happened to be in the party that was shown around by the exceedingly loquacious and effervescent Joseph whose enthusiasms for stones, paving, sculpture and garden ornaments were quite unfettered; clearly plants came second to him. No doubt, in its prime Compton Acres was an exceedingly grand and well-maintained garden with a fine collection of plants maintained by an army of gardeners. Old photographs showed that there was an immense rockery planted with cacti, the Desert Garden – this is now the Heather Garden. Cornish heath in variety was in bloom but the plants are well past their prime and members helpfully offered advice on what might be done to revivify this part of the garden. A Japanese Garden with an "Imperial Tea House" concluded the tour.

After dinner, David Edge gave a lively (and provocative) talk illustrated by slides about his 20 favourite heathers. He began with his "also rans" which were *Erica vagans* 'Yellow John', *E. cinerea* 'Golden Drop', *Calluna vulgaris* 'Kinlochruel', *E. mackaiana* 'Shining Light' and *E. lusitanica*. For the edification of members who were not present at this entertainment, David's top plants were (in reverse order):

- | | |
|---|--|
| 20. <i>Calluna vulgaris</i> 'Red Favorit' | 10. <i>Erica ciliaris</i> 'Corfe Castle' |
| 19. <i>Daboecia x scotica</i> 'Silverwells' | 9. <i>Calluna vulgaris</i> 'Peter Sparkes' |
| 18. <i>Calluna vulgaris</i> 'Silver Queen' | 8. <i>Erica carnea</i> 'Pink Spangles' |
| 17. <i>Erica cinerea</i> 'Joseph Murphy' | 7. <i>Calluna vulgaris</i> 'Amilto' |
| 16. <i>Erica cinerea</i> 'Katinka' | 6. <i>Calluna vulgaris</i> 'Elsie Purnell' |
| 15. <i>Erica cinerea</i> 'Goldilocks' | 5. <i>Erica carnea</i> 'Myretoun Ruby' |
| 14. <i>Erica vagans</i> 'Mrs D. F. Maxwell' | 4. <i>Erica cerinthoides</i> |
| 13. <i>Calluna vulgaris</i> 'Foxii Nana' | 3. <i>Erica tetralix</i> 'Pink Star' |
| 12. <i>Calluna vulgaris</i> 'Stefanie' | 2. <i>Erica x griffithsii</i> 'Jacqueline' |
| 11. <i>Erica carnea</i> 'Golden Starlet' | 1. ... |

David concluded, after much discussion of many associated topics including the trueness of the colours of the flowers in some of his slides, by unveiling the content of a black plastic bag - his best-of-all heathers: **1. *Erica x williamsii* 'Ken Wilson'**.

The essential business of the AGM was concluded expeditiously on Sunday morning and after coffee we left for David Edge's nursery where we were joined by some of the local group members who wished to mark Phil Joyner's retirement as the Southwest Group organizer (see *Bulletin* 6 (16): 3(Autumn 2005)). Then we dispersed through the nursery. The beds were a kaleidoscopic carpet of colour from foliage and flowers, and there were some Cape heaths sheltered in the tunnels and glasshouses. Eagle-eyes will have spotted two new cultivars that David plans to introduce soon: *E. carnea* 'Aztec Gold' and *E. x darleyensis* 'Phoebe' (see Supplement to *International register of heather names* VI: this issue p. 70). David's innovative topiary heathers, which he had mentioned in his talk, were on view too. Members who wished were able to avail of a do-it-yourself cuttings exercise generously laid on by the nursery.

Susie had wanted the group photograph on the merry-go-round on the Bournemouth sea-front but settled instead for the more appropriate setting of Forest Edge Nursery!



Group photograph: Forest Edge Nursery

We spent the afternoon exploring the plantsman's paradise of the Sir Harold Hillier Garden. This incomparable collection of hardy trees and shrubs is managed by Hampshire County Council and includes a mature heather garden (see *Yearbook of The Heather Society* 1997: 39–47). We reached the heathers by way of a ramble through the Winter Garden, thence past the pond, Bog Garden, Peat Walls and Himalayan Garden (several of the hardy wild gingers including the white-flowered *Hedychium forrestii* were in bloom). We were able to advise on some re-labelling, and enjoyed such comparisons as the two golden-foliaged heaths *E. carnea* 'Barry Sellers' and *E. x griffithsii* 'Valerie Griffiths' side by side in the same bed – amusingly their namesakes both were present too.

The last evening was informal and started with an auction of some books briskly and persuasively conducted by Alan Kay who also continued to badger us to buy



John and Valerie Griffiths admiring a planting of *E. x griffithsii* 'Valerie Griffiths' at the Sir Harold Hillier Garden

the few remaining plants. There was a brief report about David Edge's double-first: the discovery of Mackay's and Stuart's heaths in County Kerry in 2003 (see this issue pp 56–58). Walter Wornick's query – How do I make my heather garden into a heather moor? – provoked discussion and suggestions including the use of a selective herbicide to remove the grass, and a particular mowing regime to encourage the heathers to form a lawn. And that was that, it seemed, for another year, until Buxton in 2006. Susie Kay, with Alan as a redoubtable assistant, had done a marvellous job of organizing the weekend and we thank them.

No-one, I think, expected our 2005 gathering to have a very remarkable finale! Arnold Stow invited our new Norwegian member Egil Sæle to say a few words. Egil expressed his gratitude for the friendship shown by members, and then quietly said he wished to sing, and he sang, unaccompanied and with exquisite precision a hauntingly beautiful Norwegian folk-song, "Mine viser". We applauded, mesmerised, and Egil followed this with an equally wonderful Scottish whaling ballad, about voyaging to Greenland. After those two melodies ordinary words were superfluous!

Well satisfied, we bade one another "Farewell" in the morning, and voyaged home to our own heathers.

BOOK REVIEWS & RECENT PUBLICATIONS

K. LORTZ, [2005]. *Heaths and heathers – color for all seasons*. Shelton: K. Lortz (502 E. Haskell Hill Road, Shelton, WA 98584, USA). Pp 112; illustrated. Price \$29.50 (can be ordered online: www.heathsandheathers.com).

Karla Lortz is the owner of a heather nursery at Shelton, Washington, USA. The decision to produce her own book on heathers came about because she found that her prospective customers knew little or nothing about them and, as she says in her editorial, “there are few books in print on heather and even fewer from a North American perspective”.

On opening *Heaths and heathers* the first things to catch the eye are the many beautiful, mouth-watering pictures of heathers – photographed in some of the best public and private heather gardens in the United States and British Columbia (including the magnificently quirky garden of Jim and Bev Thompson). With the exception of some of the late Art Dome’s superb close-ups, the photographs were all taken by Karla herself.

However, this book is not just a collection of pretty pictures. Written in Karla’s own very informal style, it also provides the reader with all the necessary information required for successful heather growing, such as – soil requirements, pruning, watering, spacing and hardiness, as well as cold-weather and drought care. The information given is as relevant to British readers as it is to those in North America.

With pages of almost A4 size, *Heaths and heathers* is not a pocket reference book. In fact it needs treating with care, as the unusual wax resin printing process which has been used, means that the photographs and text are very easily scratched. The book actually comes with a printed warning!

DAPHNE EVERETT

W. MILLIKEN & S. BRIDGEWATER, 2004. *Flora celtica [Plants and people in Scotland]*. Edinburgh: Birlinn. Pp 328; illustrated. Price £ 30. ISBN 1-84158-303-0.

This is a fascinating, handsome and beautifully produced book, a real treat! It is not just for Scottish folk – anyone, anywhere can enjoy it. The photographs of plants and of their uses are excellent. For example, there is a photograph showing the process of thatching a “Bronze Age” hut with heather at Ardbriachan, and the accompanying text (p. 86 tells that the thatching is easy, the hardest job is the collecting – “the pluckin’ of the heather.” According to *Flora celtica* Scottish heather is now useless for thatching and present-day thatchers are “in the slightly crazy position” of importing the stuff from Yorkshire!

Thatching is only one of the uses of heather recorded in Scotland: the index yields heather ale, beds, gems, honey, rope, tea, and wine. Heather was also used in dyeing. Heather provides grazing for sheep, ling being regarded as the best, “being

the least bitter". Heather ropes were used in harvesting seaweed. One of the older photographs (p.107), dated 1947, shows Angus John Campbell of Lochboisdale, South Uist, making heather rope (strangely he was also photographed carrying heather and reeds, wearing the same clothes and looking not a day younger, in 1936).

There is much, much more in *Flora celtica* about heathers and their traditional uses. The volume is packed with interesting facts: there are recipes for soups and cordials, for heather wine and heather ale. There are proverbs – *cruaidh mar am fraoch*, *buan mar an giuthas*: hard as the heather, lasting as the pine – and poems including Robert Louis Stevenson's "A Galloway legend" about "the secret of heather ale", from his *Ballads* (1890).

Returning to the photographs, the most spectacular has to be that by Patricia and Angus Macdonald of *muirburn* patterns in the Southern Uplands (p. 238) – a stunning mosaic of heather in purple and mauve and green.

At £30 *Flora celtica* is an exception bargain. I recommend it without reservation.

E. C. NELSON

Recent publications

A. BEAN & A. JOHNS, 2005. *Stellenbosch to Hermanus [including Kogelberg and Hottentots Holland]*. (South African wild flower guide 5.) Second revised edition. Pp 337. Cape Town: Botanical Society of South Africa.

This very popular guide, by botanist Anne Bean and conservationist and photographer Amida Johns (see pp 24–31), in A5 size, covers 554 species of the flora of the most concentrated and diverse floral region in the Cape Floral Kingdom. It deals with the ferns, conifers and flowering plants.

There is a fine introduction of 26 pages dealing with interesting trails and walks in the various reserves and mountain areas, the climate and geology, habitats, ecology and origins of the flora, pollination and seeds, fire strategies and conservation. There is also a chapter on plant classification with useful and interesting details of each family. Then follows the species accounts with four to five species per page with interesting informative text opposite superb colour photographs.

In this guide 31 species of *Erica* are included out of the several hundred in the guide's region. Some of these are spectacular species found only within this region, i.e. the bicoloured tubular *E. massonii*, *E. macowanii* and *E. perspicua*, the green waxy *E. ceraria*, the spectacular, very sticky *E. aristata*, and brilliant, red-flowered *E. pillansii*.

Further information can be obtained from the Botanical Society's website, and orders can be placed with their bookshop on www.botanicalsociety.org.za.

TED OLIVER

- CAFFERTY, S. & NELSON, E. C., 2005. Proposal to reject the name *Erica viridipurpurea* (Ericaceae). *Taxon* **54** (1): 206.
- FAGÜNDEZ, J. & IZCO, J., 2004. Seed morphology of *Erica* L. sect. *Tylospora* Salisb. Ex I. Hansen. *Israel journal of plants sciences* **52**: 341–346.
- Seeds of *Erica australia* with caruncle.
- HANEKOM, A., 2005. *Erica propendens* and the Caledon Wilflower Show. *Veld & flora* **91** (3: September): 108.
- With photograph. Very rare species, known from a single “spot smaller than a rugby field ...”.
- HELME, N., 2005. The endemic flora of the Cape Peninsula. *Veld & flora* **91** (3: September): 114–117.
- Erica halacacaba* illustrated. 39 *Erica* species endemic to the peninsula.
- LOW, B. & POND, U., 2005. Stretching the flora. The Cederberg-Tanqua tension zone. *Veld & flora* **91** (3: September): 118–122.
- Erica maximiliani* [sic.] illustrated: called klipheide, it is “one of the more typical slab endemics.”
- McFADZEAN, D., 2005. Centre of excellence. *The Scots magazine*, new series, **163** (1): 71–74.
- Speyside Heather Centre: past and present, and cloutie dumplings, with photographs of the Lambie family (1973–2005).
- MCGUIRE, A. F. & KRON, K. A., 2005. Phylogenetic relationships of European and African ericas. *International journal of plant science* **166** (2): 311–318.
- Important paper reporting DNA studies. “The common ancestor of both *E. arborea* and the Cape African taxa was also widespread across both continents.” Distribution maps, however, are inaccurate.
- NELSON, E. C., 2005. *Erica mackaiana* Bab. and *Erica* × *stuartii* (MacFarl.) Mast. (Ericaceae): two heathers new to South Kerry (v. c. H1), Ireland. *Watsonia* **25**: 414–417.
- Detailed report; David Edge’s discovery of 2003. (NB there is a printing error; p. 414, paragraph 4, line 3, insert a decimal point between the numerals 2 and 5 (i.e. 2.5km).)
- , 2005. For luck and love ... the origins of “lucky” white heather. *The Scots magazine*, new series, **163** (3): 250–253.
- See pp 00–00 of this issue for a more detailed account.
- OLIVER, E. G. H. & OLIVER, I. M.†, 2005. The genus *Erica* (Ericaceae) in southern Africa: taxonomic notes 2. *Bothalia* **35**: 121–148.
- New species names: *E. ceraria*, *E. croceovirens*, *E. gerhardii* (after Gerhard Kirsten (1931–2000)), *E. prolata* and *E. viridimontana*. Also new subspecies: *E. foliacea* subsp. *fulgens*, *E. stagnalis* subsp. *minor*, *E. conspicua* subsp. *roseoflora*, *E. macowanii* subsp. *lanceolata*, *E. leucotrachela* subsp. *monicae* (after Monica Cloete), *E. viridimontana* subsp. *nivicola*, *E. pillansii* subsp. *fervida*, *E. viridescens* subsp. *mutica* and subsp. *georgensis*, *E. glandulosa* subsp. *fourcadei*, subsp. *bondiae* and subsp. *breviflora*; with figures and distribution maps.
- VLOK, J., 2005. Why do some flowers close at night while others stay open until all hours, come rain or shine? *Veld & flora* **91** (2: June): 76–79.
- “*Erica* spp are not buzz-pollinated but they often only release their pollen through small apical pores and as far as I know none of them close their flowers at night or during wet weather.”
- WIERSEMA, J. H. & NICOLSON, D. H., 2004. Proposals to clarify the interpretation of Article 60.7 and its Example 11. *Taxon* **53** (4): 1100–1101.
- Erica harveiana* and *E. mackaiana* given as examples of names to be corrected.

Supplement to the International register of heather names VI (2006)

REGISTERED CULTIVARS

CALLUNA: 9 cultivars, all selections from *C. vulgaris*

'Angie'

Registration no. C.2005:04: registered on 23 December 2005 by van Leuven, Johannes, Ilmenweg 39, D-47608 Geldern-Lüllingen, Germany

Bud-flowering: corolla and calyx dark red; buds medium-size; September–December; foliage dark green; habit upright, bushy, after 5 years 60cm tall, 50cm across.

Sport on 'Moulin Rouge', found by Johannes van Leuven in September 2003.

Named after the German Chancellor (Bundeskanzlerin), Angela Merkel.

'Dani'

Registration no. C.2005:05: registered on 23 December 2005 by van Leuven, Johannes, Ilmenweg 39, D-47608 Geldern-Lüllingen, Germany

Bud-flowering: corolla and calyx lilac; buds medium-size; September–November; foliage dark green; habit upright, like 'Amethyst', after 5 years 50cm tall, 40cm across.

Chance seedling, found by Johannes van Leuven in September 2002. Clone CLL 235 submitted for plant breeders' rights in Germany on 27 August 2003 by J. van Leuven; rights granted on 15 April 2005. Not being introduced into the trade

Named after Daniela, a worker in van Leuven's nursery.

'Golden Kry'

Registration no. C.2005:02: registered on 16 February 2005 by Brita Johansson, Musselvägen 3, 468 34, VARGÖN, Sweden

Golden foliage; forms small, dense mound (after 3 years, 6–7cm tall, 10cm in diameter); has not produced flowers.

Chance seedling, in garden of Gunnar Kry, Rydal, Sweden; named by Gunnar Kry.

'Helena'

Registration no. C.2005:08: registered on 31 December 2005 by Kurt Kramer, Edeweicht, Germany.

Bud-flowering, white, September–December; foliage light green; habit upright; develops later than 'Alicia' and remains fresh longer.

Sport on 'Alicia', found by Thomas & Helmut Hiedl, Altusried, Germany, in September 2003; CLL 312 submitted for plant breeder's rights, 29 August 2005.

'Madonna'

Registration no. C.2005:01: registered on 13 February 2005 by Johannes van Leuven, Ilmenweg 39, 47608 Geldern-Lüllingen, Germany.

White bud-bloomer with "extremely thick buds".

Clone CLL 305; submitted for plant breeders' rights in Germany on 22 December 2004 by Johann van Leuven.

'Momo'

Registration no. C.2005:09: registered on 31 December 2005 by Kurt Kramer, Edeweicht, Germany.

Bud-flowering, violet, August–November; foliage dark green; habit creeping (like 'Heidezwerg').

Deliberately-raised seedling in 1999, 'Marlies' x 'Heidezwerg'; selected by K. Kramer; CLL300 submitted for plant breeder's right, 6 September 2004.

Etymology: "Mädchenname aus TV-Serie".

'Rigel'

Registration no. C.2005:03: registered on 25 August 2005 by Brita Johansson, Musselvägen 3, 468 34 Vargön, Sweden.

Flowers pale mauve (H2), single, August to September. Foliage rich golden in Summer, light red in Spring; there are red tints in the foliage even in Summer. Habit low, spreading, to 20cm tall, 45cm across after 5 years.

Seedling, deliberately raised in 1998 and selected by Brita Johansson.

'Ute'

Registration no. C.2005:06: registered on 23 December 2005 by van Leuven, Johannes, Ilmenweg 39, D-47608 Geldern-Lüllingen, Germany

Bud-flowering: corolla and calyx light pink; buds medium-size; September–November; foliage light green; habit upright, very bushy, after 5 years 70cm tall, 50cm across.

Chance seedling, found by Johannes van Leuven in September 2002. Clone CLL 234; submitted for plant breeders' rights in Germany on 27 August 2003 by J. van Leuven; rights granted on 15 April 2005. Because it is so similar to 'Dapiali', not being introduced into the trade.

Named after Ute, a worker in van Leuven's nursery.

'Violetta'

Registration no. C.2005:07: registered on 23 December 2005 by van Leuven, Johannes, Ilmenweg 39, D-47608 Geldern-Lüllingen, Germany

Bud-flowering: corolla and calyx violet; buds medium-size; September–December; foliage darkgreen; habit upright, very bushy, after 5 years 70cm tall, 50cm across.

Chance seedling, found by Johannes van Leuven in September 2002. Clone CLL 316; submitted for plant breeders' rights in Germany on 30 August 2005 by J. van Leuven.

***ERICA*: 7 cultivars.**

***E. andevalensis* f. *albiflora* 'Blanco del Odiel'**

Registration no. E.2005:04: registered on 20 January 2005, by Dr Charles Nelson, Registrar, The Heather Society.

Flowers white, anthers amber; shrub to more than 1m tall.

Collected 18 July 1982, Rio Odiel valley, Huelva, Spain, by D. McClintock, E. C. Nelson and D. J. Small; MNS017 (see *Glasra* 7: 35-36 (1983)).

***E. carnea* 'Aztec Gold'**

Registration no. E.2005:07: registered on 28 December 2005, by David Edge, Forest Edge Nurseries, Woodlands, Wimborne, Dorset BH21 8LJ.

Flowers single; corolla H16 (shell-pink deepening to heliotrope); calyx H8 (pink); January–April; foliage golden yellow in Summer, deep gold with orange and bronze tints in Winter; habit bushy, compact, after 3 years 8 ins tall, 14ins across.

Chance seedling found in pot of *Erica carnea* 'Treasure Trove' by David Edge in 2003 at Forest Edge Nurseries. Has bold golden summer foliage with orange and bronze hues in Winter.

***E. carnea* 'Jennie Nimlin'**

Registration no. E.2005:03: registered on 13 February 2005, by Brita Johansson, Musselvägen 3, 468 34 Vargön, Sweden.

Flowers heliotrope (H12), calyx slightly darker than corolla; March to May (in Sweden). Foliage green, yellow and orange in Spring, later deep golden. Habit compact, to 15cm tall, to 30cm across in 4 years. Overall appearance is softer than any other *E. carnea*.

Seedling in John Proudfoot's garden, Methven, Perthshire, Scotland, c. 1995.

***E. carnea* 'Margareta Dahlin'**

Registration no. E.2005:02: registered on 13 February 2005, by Brita Johansson Musselvägen 3, 468 34 Vargön, Sweden.

Flowers smaller than usual: corolla magenta (H14), calyx deep magenta (H14), from early March to May (in Sweden); earliest cultivar to flower in Sweden. Foliage deep rusty in Spring, later deep golden. Habit spreading to 15cm tall, 40cm across in 5 years.

Seedling; found and propagated by John Proudfoot, Almondal Nursery, Methven, Perthshire, Scotland, c. 1995.

***E. x darleyensis* 'Phoebe'**

Registration no. E.2005:01: registered on 20 January 2005, by David Edge, Forest Edge Nurseries, Woodlands, Wimborne, Dorset BH21 8LJ.

Corolla rose-pink; calyx rose-pink; foliage dark green; habit compact, bushy; after 3 years 15cm tall, 25cm across; flowering October–January.

Chance seedling at Forest Edge Nurseries, in found by David Edge in 2003; believed to be a cross between *E. carnea* 'Treasure Trove' and *E. erigena* 'Irish Dusk'.



Erica x darleyensis 'Phoebe' (© D. Edge)



Calluna vulgaris 'Rigel' (© Brita Johansson)



Erica tetralix 'Meerstal' (© J. Baron).



Erica mammosa 'Orange Beauty'; Daniela is the nursery worker after whom *Calluna vulgaris* 'Dani' is named (© J. van Leuven).

***E. mammosa* 'Orange Beauty'**

Registration no. E.2005:05: registered on 20 January 2005, by J. van Leuven.

Corolla salmon-red, large, tubular; calyx salmon-red; September-December. Foliage light green. Habit upright, slightly bushy, sparsely and unevenly branching; after 5 years 120cm tall; 50cm wide.

Seedling, selected by J. van Leuven, in October 2000 in Luellingen. Submitted for plant breeder's rights on 8 April 2005 by J. van Leuven.

***E. tetralix* 'Meerstal'**

Registration no. E.2005:06: registered on 20 December 2005, by J. Baron (per J. Flecken).

No flowers, the inflorescence is replaced by 1–2cm long hairy caterpillar-like shoots; foliage grey-green; height maximum 25 cm; "flowering" July-August.

A monstrosity, found by J. Baron in August 1984 in the Balloërveld, Province Drenthe, Holland.

Names new to the *International register of heather names*

Only names that are in print, or in the public domain via websites are included here.

Calluna vulgaris

'Anouk': Clone CLL 282; Bundessortenamt website accessed 30 December 2005.

'Antonia': Clone CLL 230; Bundessortenamt website accessed 30 December 2005.

'Aran Gold': B. de la Rochefoucauld, *La bruyère*, 45 (1978: 1st edn); typographic error.

'Cutler's Pink'

Flowers pink, double; "much bigger and better retained on the lower stems" than 'County Wicklow'.

Name suggested for a plant growing in Cutler Botanic Garden, Binghamton, New York, USA, in 2004.

The origin is not known, but it was postulated that it was a sport from 'Kinlochruel' (hence the other name 'Pink Kinlochruel' suggested in the same article).

Heather notes 15 (1): 2 (2005).

'Doris Ruthworth': B. de la Rochefoucauld, *La bruyère*, 52 (1978: 1st edn); typographic error.

'Dunneydeer': G. P. Vickers (editor), *Heather trials 1971-75*: 39 (1976): typographic error.

'E005': Clone CLL 285; Bundessortenamt website accessed 30 December 2005.

'Ethyl Elizabeth'

Tiny ("I think the tag said 2" x 4""); similar to 'Lyndon Proudley' and of little value."***

Selected by Paddy van Adrichem (British Columbia, Canada) from seedlings he collected in his garden and named after his wife.**

K. Lortz to ECN, e-mail 16 July 2005*; D. Wilson to ECN, email 2 August 2005**.

'Evienné': Clone CLL 276; Bundessortenamt website accessed 30 December 2005.

'Florae-plena alba': invalid (ICBN); J. Donn, *Hortus Cantabrigiensis*: 262 (1845; 13th edn).

'Glenmashie': G. P. Vickers (editor), *Heather trials 1971-75*: 39 (1976): typographic error.

'Goscha': Clone CLL 249; Bundessortenamt website accessed 30 December 2005.

'Heimalis Southcote': G. P. Vickers (editor), *Heather trials 1971-75*: 39 (1976): typographic error.

'Indian Maid'

Flowers lavender; August–September; foliage gray-green; habit upright; "a vigorous silver."

Selected and named in USA

K. Lortz to ECN e-mail 16 July 2005; <http://www.heathsandheathers.com/cart5/index.html>.

'Indian Summer'

Flowers bright lavender, September–October; foliage medium-green; habit spreading (3 year old plants are 12" tall x 14" wide); "looks similar to 'Indian Thick Rug' in growth habit, only a larger version; vigorous grower as well."

Selected and named in USA

K. Lortz to ECN e-mails 16 July 2005, 1 August 2005; <http://www.heathsandheathers.com/cart5/index.html>.

'Ines': Clone CLL 250; Bundessortenamt website accessed 30 December 2005.

'Janet's White'

"Moderately compact, average white." July–September, with bright medium-green foliage. Upright 12" tall x 24" wide.

"Janet Henry left her home in Ayr Scotland after World War II. She was in her mid-20s and settled in Seattle and stayed until her death in 1996. Shortly before she died she was able to travel to Scotland and on her return she presented me with a sprig of white *Calluna* from Ayr, which she boasted had spent most of the journey in her lapel, and gave me instructions to propagate it. We continue to take five cuttings every year.

www.heathsandheathers.com/cart5/page13.html [accessed 24 August 2005]; D. Wilson to ECN, email 4 September 2005.

'Jemma'

Selected by Roger Bell (who found 'Arran Gold'); seen (J. Flecken) at Speyside Heather Centre (but not on sale) during Second international heather conference, August 2004.

Jos Flecken to ECN, email 31 August 2004; D. Lambie, in litt. November 2004.

'Kithill': G. P. Vickers (editor), *Heather trials 1971-75*: 39 (1976): typographic error.

'Laphraig': G. P. Vickers (editor), *Heather trials 1971-75*: 39 (1976): typographic error.

'Laurentine': Clone CLL309: Bundessortenamt website accessed 30 December 2005.

'Leila': Clone CLL 238: Bundessortenamt website accessed 30 December 2005.

'Lesley Slinger': G. P. Vickers (editor), *Heather trials* 1971-75: 14 (1976): typographic error.

'Libra': Clone CLL 226: Bundessortenamt website accessed 30 December 2005.

'Mariella': Clone CLL 209: Bundessortenamt website accessed 30 December 2005.

'Marisha': Clone CLL 227: Bundessortenamt website accessed 30 December 2005.

'Mignon': Clone CLL 308: Bundessortenamt website accessed 30 December 2005.

'Minette': Clone CLL 307: Bundessortenamt website accessed 30 December 2005.

'Pink Kinlochruel': rejected

Name suggested for a plant growing in Cutler Botanic Garden, Binghamton, New York, USA, in 2004.

The origin is not known, but it was suggested that it was a sport from 'Kinlochruel' (hence the name):

'Cutler's Pink' was also suggested in the same article.

Heather notes 15 (1): 2 (2005).

'Purple Passion': rejected

Name used by Peter Bingham. "We no longer propagate 'Purple Passion' as it was rather unstable. ...

We only ever sold a trial batch for one year before dropping it. When asked the garden centres that tried it said it was good but then never even noticed when we stopped producing it."

P. Bingham to D. Small, email 15 September 2005.

'Ronald Heagen': G. P. Vickers (editor), *Heather trials* 1971-75: 39 (1976): typographic error.

'Sabella': Clone CLL 225: Bundessortenamt website accessed 30 December 2005.

'Sachsenzauber': Clone CLL318: Bundessortenamt website accessed 21 December 2005.

'Safari': Clone CLL 224 : Bundessortenamt website accessed 30 December 2005.

'Salena': Clone CLL 223: Bundessortenamt website accessed 30 December 2005.

'Sietske': Clone CLL 315: Bundessortenamt website accessed 30 December 2005.

'Soraja': nursery name/code for 'Sylke': Clone CLL 283: Bundessortenamt website accessed 30 December 2005.

'Soraja': CLL306: Bundessortenamt website accessed 30 December 2005.

'Splendid Red': Clone CLL 302: Bundessortenamt website accessed 30 December 2005.

'Spring Bank': G. P. Vickers (editor), *Heather trials* 1971-75: 39 (1976): typographic error.

'Sweet Lady': Clone CLL 222: Bundessortenamt website accessed 30 December 2005.

'Sylke': Clone CLL 283: Bundessortenamt website accessed 30 December 2005.

'Toregay': G. P. Vickers (editor), *Heather trials* 1971-75: 39 (1976): typographic error.

'Valentina': Clone CLL 182: Bundessortenamt website accessed 30 December 2005.

'Valerie': Clone CLL 314: Bundessortenamt website accessed 30 December 2005.

'Varenka': Clone CLL 241: Bundessortenamt website accessed 30 December 2005.

'Venka': Clone CLL 229: Bundessortenamt website accessed 30 December 2005.

'Vera Lynn': Clone CLL 313: Bundessortenamt website accessed 30 December 2005.

'Vincentia': Clone CLL 239: Bundessortenamt website accessed 30 December 2005.

'Vivika': Clone CLL 240: Bundessortenamt website accessed 30 December 2005.

'Volante': Clone CLL 228: Bundessortenamt website accessed 30 December 2005.

'Yellow Steele': accepted, established here

Flowers white. "So far, the foliage has appeared more yellow to me than golden."*

Introduced by Lieutenant-Commander (retd) R. M. Steele (Rose Bay, Lunenburg, Nova Scotia, Canada) before 1999. Originally named 'Steele' by G. & E. MacKinnon (Waquoit, Cape Cod, Mass., U.S.A.), but that name is rejected.

Karla Lortz to ECN e-mail 21 July 2005*.

Erica— *arborea*

'Arogonensis': *Royal Botanic Garden Edinburgh catalogue of plants* (2001): 172; typographic error.

— *carnea*

'Dagmar Böhmé'

Pale pink flowers with dark green foliage with lighter green tips; habit neat.

Seedling found by John Proudfoot, in his garden at Methven, Perthshire, Scotland, by 2003.

'Pink Spangler': www.botanica.org/Archives/InBloom/03.06.04.ericar%20carnea.pdf

'Tima' Similar to 'Rosalinde Schorn' but somewhat less robust.

Seedling found by John Proudfoot, in his garden at Methven. Perthshire, Scotland, by 2001.

'Virellii aurea': B. de la Rochefoucauld, *La bruyère*, 50 (1978: 1st edn); error.

— *cinerea*

'Coldy Island': B. de la Rochefoucauld, *La bruyère*, 24, 28 (1979, 1st edn): error.

— *x darleyensis*

'Geo. Randell': Catalogue, Waihi Nursery, Waihi (New Zealand), 5 (not dated, c. 1965); error.

'Katia': accepted

Olivier Pantin, SAPHO, to ECN, e-mail 28 April 2005; CPVO website accessed 31 December 2005.

'Lucie': accepted

Olivier Pantin, SAPHO, to ECN, e-mail 28 April 2005; CPVO website accessed 31 December 2005.

'Red Summersnow': CPVO website accessed 31 December 2005.

'White Spring Surprise': DJS to ECN, e-mail 15 March 2005].

— *mackayii*

'Flora Plena': Catalogue, Waihi Nursery, Waihi (New Zealand), 5 (not dated, c. 1965); error.

— *mediteranum*

'Rossalre' error. Catalogue, Waihi Nursery, Waihi (New Zealand), not paginated (not dated, c. 1965).

— *mediterranea*

'Mediterranea': rejected.

Flowers rose-lavender. 3-4 ft tall.

Marketed by Manning's Heather Farm (Sebastopol, California, U.S.A.) by 1978.

List, Manning's Heather Farm, Sebastopol, California, no. 160 (unpaginated, undated [before 9 May 1978]).

— *persoluta*

SACHI: trade designation.

Name employed by Hana Bay Flowers, c/o Bay City Flowers, Half Moon Bay, California, USA.

no printed source traced; William Dowley to DJS, e-mail 24 November 2004.

— *x scotica*: *Heather drift* no. 12 (Summer–Autumn 2005): 1; in error for *Daboecia x scotica*.

'Ellen Norris': *Heather drift* no. 12 (Summer–Autumn 2005): 1; in error for *D. x scotica* 'Ellen Norris'.

— *tetralix*

'Eifel' ('Eiffel')

Name in use in USA, probably for misidentified *E. x watsonii* clone.

Karla Lortz to ECN, e-mail 15 November 2001; Mark Bloom to ECN, e-mail 16 February 2005.

'Sylver bells': B. de la Rochefoucauld, *La bruyère*, 89 (1978: 1st edn); error.

— *vagans*

'Fiddelstone': B. de la Rochefoucauld, *La bruyère*, 27 (1979, 1st edn); error.

'Mrs P. D. Maxwell': Catalogue, Waihi Nursery, Waihi (New Zealand), 5 (not dated, c. 1965); error.

'St Kelvin': Catalogue, Waihi Nursery, Waihi (New Zealand), 5 (not dated, c. 1965); error.

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**All material for the 2007 issue of the *Yearbook of The Heather Society*
must reach the Editor not later than 31 October 2006.**

Articles may be submitted by e-mail.

DATES OF PUBLICATION OF YEARBOOKS

| | |
|-------|------------------|
| 2001: | 13 March 2001 |
| 2002: | 25 February 2002 |
| 2003: | 21 February 2003 |
| 2004: | 10 March 2004 |
| 2005: | 26 February 2005 |

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